INTERNATIONAL OBLIGATIONS OF BRAZIL IN NATURE CONSERVATION WITH EMPHASIS ON THE AMAZON AREA

- **LL.M. in Natural Resources Law and International Environmental Law** -

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January 2016

Abstract

Deforestation and protection of wildlife are of increasing concern in the Brazilian Amazon. The consequences of these problems could be incalculable and could change the biosphere integrity. National legislation does not seem to follow international obligations set forth in environmental conservation treaties. The effectiveness of domestic legislation has not adequately succeeded in halting the loss of biodiversity integrity. In view of that, the present thesis describes some of the Brazilian obligations assumed in specific, significant international treaties regarding nature conservation in the Brazilian Amazon. It analyses the Brazil's international obligations with the aim of discovering its principal rights and duties. These are then compared with the relevant national legislation and active programmes dealing with Amazonian conservation. Finally, the enforcement weaknesses that contribute to the ineffectiveness of national law are discussed with an evaluation emphasizing the compliance system.

Acknowledgments

Writing this thesis was a pleasant and stimulating task, in spite of the difficulties. I dedicate it to my dearly-loved father, Ulysses Isaac, who passed away before I began writing.

I would like to express my profound gratitude for the guidance of Professor Aðalheiður Jóhannsdóttir who patiently instructed, advised and encouraged me throughout the thesis and during the LL.M. courses. I am grateful for the love and support of my dear husband Heimir. Without him this thesis would not be possible. I cannot express my deep gratitude to my beloved mother, Márcia, for her love, support and teaching me to never give up. I am also thankful to my uncle Stenka for his help and honourable example in the legal profession. My thanks to Uncle Delfino for many lessons, but mostly for "one should persist and pursue, slowly but steadily" and that "*bene ascolta chi la nota*." Last, but not least, the support of Nína for taking her precious time to read my thesis, and her husband Sebastian for covering for me at work when I needed to dedicate more time to finishing the thesis.

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Abbreviations

ACTO	Amazon Cooperation Treaty Organization
APAs	Areas of Permanent Preservation
CAR	Rural Environmental Registry
CBD	United Nations Convention on Biological Diversity
CCA	Amazon Cooperation Council
CCD	United Nations Convention to Combat Desertification
CCOOR	Coordination Committee of the Amazon Cooperation Council
CDM	Clean Development Mechanism
CF/1988	Constituição Federal do Brasil
CGen	Genetic Heritage Management
CIM	Interministerial Committee on Climate Change
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CNBS	National Biosafety Council
CNCD	National Commission Anti-Desertification
CNFP	National Public Forests Registration
CNRH	National Water Resources Committee
CNZU	National Wetlands Committee
CONABIO	National Biodiversity Commission
CoP	Conference of the Parties
CRIC	Committee for the Review of the Implementation of the Convention
CST	Committee on Science and Technology
CTNBio	National Biosafety Technical Commission
DBFLO	Director of Sustainable Use of Biodiversity and Forests
DEGRAD	Forest Degradation Mapping in the Brazilian Amazon
DETER	Mapping of Forest Degradation in the Legal Amazon
EIA	Environmental Impact Assessment
Embrapa	Brazilian Agricultural Research Corporation
FC/2012	Forestry Code Law n. 12.651/2012
FNMC	National Fund on Climate Change

FNRB	National Fund for Benefit Sharing
FREL	Forest Reference Emission Level
FUNAI	National Indian Foundation
GCA	Environmental Control Guide
GHG	Greenhouse Gases
IABIN	Inter-American Biodiversity Information Network
IBAMA	Brazilian Institute of Environment and Renewable Natural Resources
IBGE	Brazilian Institute for Geography and Statistics
ICJ	International Court of Justice
IMAZON	Institute of People and the Environment in the Amazon
INDCs	Intended Nationally Determined Contributions
INPE	National Institute for Space Research
ITTA	International Tropical Timber Agreement
ITTC	International Tropical Timber Council
ITTO	International Tropical Timber Organization
IUCN	International Union for Conservation of Nature
LAI	Law of Access of Information
LPF	Laboratory of Forest Products
MEAs	Multilateral Environmental Agreements
MMA	Ministry of Environment
NGO	Nongovernmental Organizations
OAS	Organization of American States
PAN Brazil	National Action Program to Combat Desertification and Mitigate the Effects of Drought
PAOF	Annual Plan of Forest Concession
PAS	Sustainable Amazon Plan
PMFS	Sustainable Forestry Management Plan
PNAP	National Plan for Protected Areas
PNB	National Biosafety Policy
PNCs	Permanent National Commissions
PNF	National Forest Program

PNMC	National Plan for Climate Change
PP or PA	Precautionary Principle
PPCDAm	Plan for Prevention and Control of Deforestation in the Legal Amazon
PRODES	Deforestation Monitoring Project in the Amazon Satellite
PRONABIO	National Program of Biological Diversity
PSNR	Permanent Sovereignty over Natural Resources
RAMSAR	Convention on Wetlands of International Importance Especially as Waterfowl Habitat
REDD	Reducing Emissions from Deforestation and Forest Degradation
RENCTAS	National Report on Wildlife Trafficking Silvestre
RIMA	Environmental Impact Report
RL	Legal Reserves
SAD	Deforestation Alert System
SD	Sustainable Development
SEA	Strategic Environmental Assessment
SFB	Brazilian Forest Service
SiBBr	System Information about the Brazilian Biodiversity
SINGREH	National Water Resources Management System
SINIMA	National System of Environmental Information
SISNAMA	National Environmental System
SNUC	Brazilian National System of Protected Areas
STF	Supreme Federal Court of Brazil
TAC	Amazon Cooperation Treaty
UNCED	United Nations Conference on Environment and Development
UNCTAD	United Nations Conference on Trade and Development
UNEP	United Nations Environmental Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNGA	United Nations General Assembly
UNTS	United Nations Treaty Series
WHC	Convention Concerning the Protection of the World Cultural and Natural Heritage
WHMSI	Western Hemisphere Migratory Species Initiative

1 Introduction

1.1 Study objective

The present study investigates the international obligations that have been accepted by Brazil in the field of nature conservation with an emphasis on the Amazonian area. The principal objective is to evaluate the efficacy of Brazil's implementation of the obligations into domestic law. In that light, some of the national measures that have been taken to control and protect the Amazonian area, particularly regarding major environmental problems such as deforestation and wildlife protection, will be analysed and compared with the international obligations. The study will also bring some of the enforcement problems to light and discuss measures that have been taken to ensure compliance and accountability. The study's basic hypothesis is that Brazil has not been following its international obligations as it should have done and the aim is to demonstrate why.

1.2 Sources, method, methodological approach and organisation

1.2.1 Sources

The principal sources that are relied upon comprise the relevant international treaties covering nature conservation and which Brazil has ratified, as well as pieces of national legislation relating to the issue. These include the following:

1. Convention on Nature Protection and Wild Life Preservation in the Western Hemisphere (the Western Hemisphere Convention) (1940);[1]
2. Convention on International Trade in Endangered Species of Wild Fauna and Flora (1973) (CITES);[2]
3. Convention on Wetlands of International Importance Especially as Waterfowl Habitat (1971) (RAMSAR);[3]
4. Convention Concerning the Protection of the World Cultural and Natural Heritage (1972) (WHC);[4]

[1] Came into force 1 May 1942, in accordance with article XI, United Nations Treaty Series (UNTS) II-485. Vol. 161 UNTS 193.
[2] Came into force 1 July 1975, UNTS I-14537.
[3] Came into force 21 December 1975, UNTS I-14583.
[4] Came into force 17 December 1975, UNTS I-15511.

5. Amazon Cooperation Treaty (1978) (ACT);[5]
6. United Nations Convention on Biological Diversity (1992) (CBD);[6]
7. United Nations Framework Convention on Climate Change (1992) (UNFCCC);[7]
8. Convention to Combat Desertification (1994) (CCD); [8]
9. International Tropical Timber Agreement (2006) (ITTA); [9]
10. Constituição Federal do Brasil (1988) (CF),[10]
11. Law n. 12.651/2012, Código Florestal Brasileiro.[11]

Several secondary sources, including scholarly literature on nature conservation, will be used to support theories, explain research problems and clarify concepts. Other materials will contribute to the study, including soft law instruments, such as the Non-Legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of all Types of Forests (Forest Principles)[12] and United Nations Climate Summit 2014 – New York Declaration on Forest – Action Statement and Action Plan.[13] Regardless of their non-binding nature, these instruments are significant for the status of forests within international law and policy, functioning not only as guidance but also to build awareness.[14]

1.2.2 Methods and methodology

The study was conducted in three steps. The first step was to systematically analyse the principal rights and duties of states that each treaty has established. The second step was to verify if international obligations are being met in the national legislation by comparing international obligations with particular pieces of Brazilian legislation. The third step consisted of an evaluation

[5] Came into force 21 December 1975, UNTS I-19194.
[6] Came into force 29 December 1993, UNTS I-30619.
[7] Came into force 21 March 1994, UNTS I-30822.
[8] Came into force 26 December 1996, UNTS I-33480.
[9] Came into force 7 December 2011, UNTS I-49197.
[10] Brazilian Federal Constitution, came into force 5 October 1988.
[11] Brazilian Forestry Code, came into force 28 May 2012.
[12] From 14 August 1992, A/CONF.151/26 vol III Report of the United Nations Conference on Environment and Development (UNCED) <http://www.un.org/documents/ga/conf151/aconf15126-3annex3.htm> accessed 5 February 2015.
[13]From 23 September 2014, United Nations Climate Summit 2014 <http://www.un.org/climatechange/summit/wp-content/uploads/sites/2/2014/09/FORESTS-New-York-Declaration-on-Forests.pdf> accessed 5 February 2015.
[14] See further Anja Eikermann. *Forests in International Law: Is there really a need for an International Forest Convention?* (Springer 2015) 56-57.

of possible gaps and weaknesses in national legislation. The evaluation criteria included issues relating to the adequacy and efficacy of domestic law in implementing international obligations.

The legal method applied was primarily analytical and comparative as the emphasis was on analysing the relevant international rights and duties in regards to implementation into domestic law. The approach was problem-oriented and critical as well and strove to provide discussion and possible solutions to the study's main thesis.

1.3 Organisation

The present chapter outlines the study's objectives, method, methodology and its organisation. Chapter 2 discusses the natural value of the Amazon, its national and international significance and provides a general background. Chapter 3 enters the legal sphere and describes the development of some of the fundamental principles of international environmental law relating to nature conservation and sustainable development. Moreover, the term Legal Amazon, *Amazônia Legal*, is explained. Finally, Chapter 3 discusses nature conservation, biodiversity, and natural resources with an emphasis on the role of law. Chapter 4 identifies the relevant international obligations of Brazil with the aim of bringing the principal rights and duties to light. These will then be compared with the relevant national legislation and programmes. Afterwards, will be drawn forward the enforcement weaknesses under the national legal system which contribute to its ineffectiveness. Brazil follows the monistic principle and Chapter 4 discusses some features of the Brazilian constitution and civil law system as well as the status of environmental law in the domestic legal system. Issues like deforestation and protection of wildlife are particularly dealt with in the chapter, through analyses of treaties and national law. The chapter ends with a short discussion to thoroughly evaluate what was uncovered, with an emphasis on the compliance system. The aim is to demonstrate the coherence of the Brazilian obligations and how the law actually reflects these obligations. Finally, possible solutions and recommendations and final remarks close the discussion of the chapter. Lastly, the conclusions of the thesis discussions and answer to the research questions are demonstrated in Chapter 5.

2 Non-legal background

2.1 The international Amazon

2.1.1 Amazon biome and Amazon basin

Shared by eight countries in South America, the Amazon biome is a vast region containing 6.4 million square kilometres of the largest tropical forest in the world.[15] A biome can be defined as a "large unit of land or water containing a geographically distinct assemblage of species, natural communities, and environmental conditions."[16] Accordingly, the Amazon biome is the home of a rich variety of ecosystems, important for its endemism and mostly covered with dense, moist tropical forest.[17] The other three subgroups: the lowland forests or Amazonian flood plains, clouded forests or misty forest (due to great temperature variations) and the highland forests, are also present, each with its own climate and characteristics. As for the hydrographical size, the Amazon basin is estimated to be 6,869,000 square kilometres and represents 25 percent of South America's total surface.[18] Both elements of the Amazon, biome and basin, have an impressive proportion of the most diverse bionetworks in the world.[19]

2.1.2 International Amazonian biodiversity

The essence of Amazonian landscape lies in its almost incalculable variety of animal and plant species and the abundance of water in its more than one thousand rivers and tributaries. The Amazonian ecosystem, in its six million squared kilometres of continuous tropical rainforest, plays a vital part in upholding biological diversity and conserving life on Earth.[20] The Amazonian watershed consists of six rivers that originate in the Andean Cordillera, and another six that have their origins in the Amazonian plains. These twelve effluents produce between 12,000 to 16,000 cubic kilometres of water a year that drains into the Amazonian basin. This rich aquatic ecosystem, and the overall wildlife in the Amazonian area, is mainly used by local populations as fishing and

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[15] Denys Pereira, *et al*. *Fatos Florestais da Amazônia* (Imazon 2010) 18. The Amazon area is located in eight countries (percentage of Amazonian land in brackets): Brazil (63%), Peru (10%), Colombia (7%), Bolivia (6%), Venezuela (6%), Guyana (3%), Suriname (2%), Ecuador (1,5%) and French Guiana (1,5%). See also (n 17) 41.

[16] WWF – World Wild Fund website definition of 'Ecoregion' < http://www.worldwildlife.org/biomes > accessed 24 August 2014.

[17] United Nations Environmental Programme (UNEP), Amazon Cooperation Treaty Organization (ACTO) and Research Center of Universidad del Pacífico (CIUP), *Environmental Outlook in Amazonia, Geo Amazonia*, 2009, 11, 36 and 37, < http://www.unep.org/pdf/geoamazonia.pdf > accessed 24 August 2014.

[18] *Pereira* (n 15) 18.

[19] (n 17) 40 – 41, 106-107.

[20] (n 17) 109.

hunting grounds. More than 2,500 species of fish have been identified in the Amazon, more than the number found in the Atlantic Ocean.[21]

2.1.3 Indigenous tribes and other international Amazonian populations

In 2007, it was estimated that the number of Amazonian inhabitants was 33,485,981, or about 11% of the total population of all Amazon Cooperation Treaty Organization (ACTO) countries.[22] The immense value of the cultural diversity in the Amazon is represented by its human societies, especially the indigenous peoples living in the area. The cultural diversity includes 420 distinct indigenous peoples, speaking 86 languages with 650 dialects.[23] Brazil and Peru have the largest number of indigenous peoples living in isolation and surviving with resources taken from the rainforest.[24]

2.1.4 Use of natural resources in the international Amazon area

In this study, the term resource is used to describe something that is useful to humans, that can only be taken from earth and that will be exploited for economic gain.[25] Accordingly, natural resources are the rich materials helping to form the biodiversity of the Amazon area. This includes both the vegetation with its variety of plants species and the soil with its mineral resources. All eight countries sharing the natural wealth of the Amazon have developed an enormous output from the ecosystems. This abundant biodiversity has promoted several high value-economic activities, including aquaculture, ecotourism, animal breeding, agroindustry, and hunting, among others.[26]

Notably, the main economic activity present in almost all countries is agriculture, with plantations that produce a variety of crops including: millet, coffee, manioc, cocoa, legumes, sugar, rice, oil palm as well as livestock.[27] The second most common economic activity is forestry, which makes use of timber yielding and non-timber yielding resources. Mining is also a cause of immense exploitation through the extraction of gold, copper, bauxite and iron among others. Hydrocarbon production is increasing through the extraction and management of petroleum and natural gas.[28]

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[21] (n 17) 111, 116.
[22] (n 17) 67.
[23] (n 17) 72.
[24] (n 17) 72.
[25] Philip Fearnside *The Main Resources of Amazonia*. LASA – Latin America Studies Association, International Congress (April 1997) 2.
[26] (n 17) 111.
[27] (n 17) 58.
[28] (n 17) 58, 89.

2.1.5 Protected areas in the international Amazon

All the Amazonian countries have developed a domestic protection system to safeguard and conserve important biodiversity areas and promote sustainable use of their resources. From all the eight ACTO countries, the total protection area represents only 4% of the area. In the Amazon Basin, the total area of conservation is estimated as 78,407,18 hectares. Brazil and Peru hold the largest conservation areas within their territory, 54% and 13% respectively. Brazil has a total of 100 protected areas and Peru a total of 15. [29]

2.2 The Brazilian Amazon

2.2.1 The legal Amazon – *Amazônia legal*

The Amazon does not have a specific definition and is also very difficult to delimit. The ACTO countries decided that each nation would have its own definitions and delimitation as well as national ecological, hydrographical and political/administrative structures.[30] In Brazil, the Amazon region encompasses three different biomes: the entire Amazon, Cerrado (37%) and Pantanal (40%).[31] This region is administratively referred to as *Amazônia Legal* (meaning Legal Amazon) consisting of nine states: Acre, Amapá, Amazonas, Roraima, Rondônia, Pará, Mato Grosso, Tocantins, and part of Maranhão.[32] The term *Amazônia Legal* became a legal and political/administrative concept with the acceptance of Law n. 1.806 from January 6, 1953 and reflects a regime to plan and control the development of the region.[33] The Amazon biome covers 63% of the Brazilian territory, with a total area of 5,217,423 km^2,[34] and its administrative unit, called Legal Amazon, covers more than 50% of the Brazilian territory. It is important to note that most of the officially accessible statistics are for the Legal Amazon.[35]

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[29] (n 17) 115. These conservation areas are categorized as National Parks, Biological Reserves, Biological Stations, Ecological Stations, Wildlife Refuges, Ecological Stations Administered by Federal States, Biological Reserves under the responsibility of Amazonian States, Sanctuaries for Fauna and Flora, Historic Sanctuaries, and Natural Monuments.
[30] (n 17) 38.
[31] Brazil's submission of a Forest Reference Emission Level (FREL) for reducing emissions from deforestation in the Amazonia biome for REDD+ results-based payments under the UNFCCC. 13. <http://redd.mma.gov.br/images/Publicacoes/FREL_Complete_October31_FINAL.pdf> accessed 10 December 2014.
[32] *Pereira* (n 15) 19.
[33] Law modified by law n. 5.173 from 27 October 1966, art 2, and modified by Complementary Law n. 31, from 11 October 1977, art 45.
[34] *Pereira* (n 15) 18.
[35] Ruth Nogueron *et al*. *Human Pressure on the Brazilian Amazon Forests* (Instituto do Homem e do Meio Ambiente da Amazônia – IMAZON, Global Forest Watch and World Resources Institute 2006) 23. <http://bibliotecaflorestal.ufv.br/bitstream/handle/123456789/3426/Livro_Human-pressure-on-the-brazilian-amazon-WRI.pdf?sequence=1&isAllowed=y > accessed 10 December 2014.

2.2.2 Natural resources in the Brazilian Amazonia

Brazil is the most privileged country among the eight ACTO members. Not only is it the largest state in South America, it is also rich in biodiversity. The biodiversity of the Brazilian Amazon is remarkable, covering a vast number of plant, mammal, bird, reptile and amphibian species, totalling more than 58,000 species.[36] From the entire flora coverage, 62.7% is forested, 22.5% is non-forest native vegetation, and 14.8% was deforested area until 2009.[37]

The entire area of the Brazilian Amazonia is approximately 5,006.3 million km^2, where 43.9 % is protected areas, 6.2% is special areas with settlements, 22.7 % is private areas, and 27% is private land in dispute and unclaimed areas.[38] The principal economic activity in the Brazilian Amazon is agriculture (millet and livestock[39]), forestry, industry (agroindustry, petrochemical and manufacturing) and mining (extraction of gold, copper, bauxite and iron).[40] Hydroelectric energy generation is profitable in Brazil and has been prioritised. An outstanding energy innovation is biofuel that is produced from sugar cane. Sugar cane is also used in Brazil to produce 32 billion litres of alcohol per year, representing half of the world alcohol production.[41]

2.2.3 Indigenous Peoples and populations in the Legal Amazon in numbers

The Brazilian Institute for Geography and Statistics (IBGE) Census of 2010 affirmed that the total number of indigenous peoples in Brazil is 896,900 and is comprised of 305 ethnic groups speaking

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[36] (n 17) 112.

[37] *Pereira* (n 15) 22. About 63% of the Legal Amazon is covered by dense, open seasonal forests, while 22% is covered by non-forest native vegetation composed of savannah, grassland and campinaranas (Amazon caatinga forest). The areas of public forests of Brazil are in permanent process of identification and registration by the Brazilian Forest Service (SFB), and the National Public Forests Registration (CNFP). In November 2012, public forest made up an area of approximately 308 million hectares, representing 36.2% of the national territory and distributed in different biomes and regions of the country. Of this, 91% is in the Amazon biome. Rural properties in Brazil are estimated from data collected directly in agricultural establishments through declaratory questionnaires. The public registry system called Rural Environmental Registry (CAR) came in to existence in 2012 by the New Forestry Code. See further: 'Brazilian Forests at a Glance 2013'. Brazilian Forest Service <http://www.florestal.gov.br/publicacoes/tecnico-cientifico/florestas-do-brasil-em-resumo-2013 > accessed 20 February 2015 45.

[38] *Pereira* (n 15) 26-28. From the total of protected area in the Brazilian Amazon, 21.7% is indigenous land. From this, 8% is completely and permanently protected while 14.2% is earmarked for sustainable use. From this total, there is also the percentage that belongs to special areas used for rural settlement, which represent 5.6%, and 0.6% represent military settlements and Quilombolas Communities settlement (descendants of Afro-Brazilian slaves).

[39] Moacyr Bernadino *Dias-Filho, Reclaiming the Brazilian Amazon: The Restoration and Management of Pasture Lands* Embrapa Eastern Amazon (2014) 11. The author explains that cattle was introduced in the Brazilian Amazon in 1644, but the expansion of cattle ranching happened in the 1960's, especially in the northern state of Pará. <http://www.infoteca.cnptia.embrapa.br/bitstream/doc/988172/1/DOC404.pdf > accessed 10 December 2014.

[40] (n 17) 58.

[41] (n 17) 89.

274 languages[42] and living in 691 indigenous lands[43] (which do not belong to the indigenous groups, but are considered to be borrowed from the government).[44] According to the same census, the Brazilian Amazon contains 433,363 indigenous peoples from all main states.[45] The population of the Legal Amazon is estimated at 24 million people living in over 775 municipalities throughout the nine Amazonian states.[46] It is estimated that 75% of the total Amazonian population lives in Brazil.[47]

2.3 Current Amazonian threats

In the Amazon rainforest, unsustainable and illegal activities have brought about enormous and harmful consequences that have, inter alia, caused biodiversity loss. This loss has made ecosystems and the whole environment vulnerable and the damage is considered irreversible by some.[48] Many of the problems encountered in the Amazon involve deforestation that has been caused by unsustainable activities such as illegal logging and mining. Deforestation further causes soil erosion among other issues.[49] Pollution from many sources is another factor harming biodiversity. The pollutants come from the chemicals, such as mercury, used in mining, oil from petroleum extraction (hydrocarbons contamination) and chemical agents related to cocaine production.[50] Sewage also contaminates rivers and this consequently harms the species in the aquatic ecosystems as well as humans who rely on the watershed for potable water. Other issues like drought, the poverty of the population depending on the Amazon area to survive and the overall deficiency in

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[42] *Sinópse do Censo Demográfico: 2010/IBGE* (IBGE Library online, Rio de Janeiro, 2011) <http://biblioteca.ibge.gov.br/index.php/biblioteca-catalogo?view=detalhes&id=249230> accessed 28 September 2014.

[43] *Povos Indígenas no Brasil* <http://pib.socioambiental.org/pt/c/0/1/2/populacao-indigena-no-brasil> accessed 28 September 2014.

[44] Brazilian Federal Constitution "Article 20. The following are property of the Union: 11. Those lands traditionally occupied by the Indians." <http://www.wipo.int/wipolex/en/text.jsp?file_id=218270 > accessed 28 September 2014.

[45] (n 43). The census disregards that only part of Maranhão is part of the Amazon, as data released from the census did not provide an accurate cut. For more information about the Brazilian indigenous peoples, this website has a complete chart with the indigenous groups, locations, languages and populations at <http://pib.socioambiental.org/pt/c/quadro-geral > accessed 28 September 2014.

[46] Daniel Santos, *et al*., *O Estado da Amazônia – Uso da Terra* (Instituto do Homem e do Meio Ambiente da Amazônia – IMAZON, 2013) 14-15.

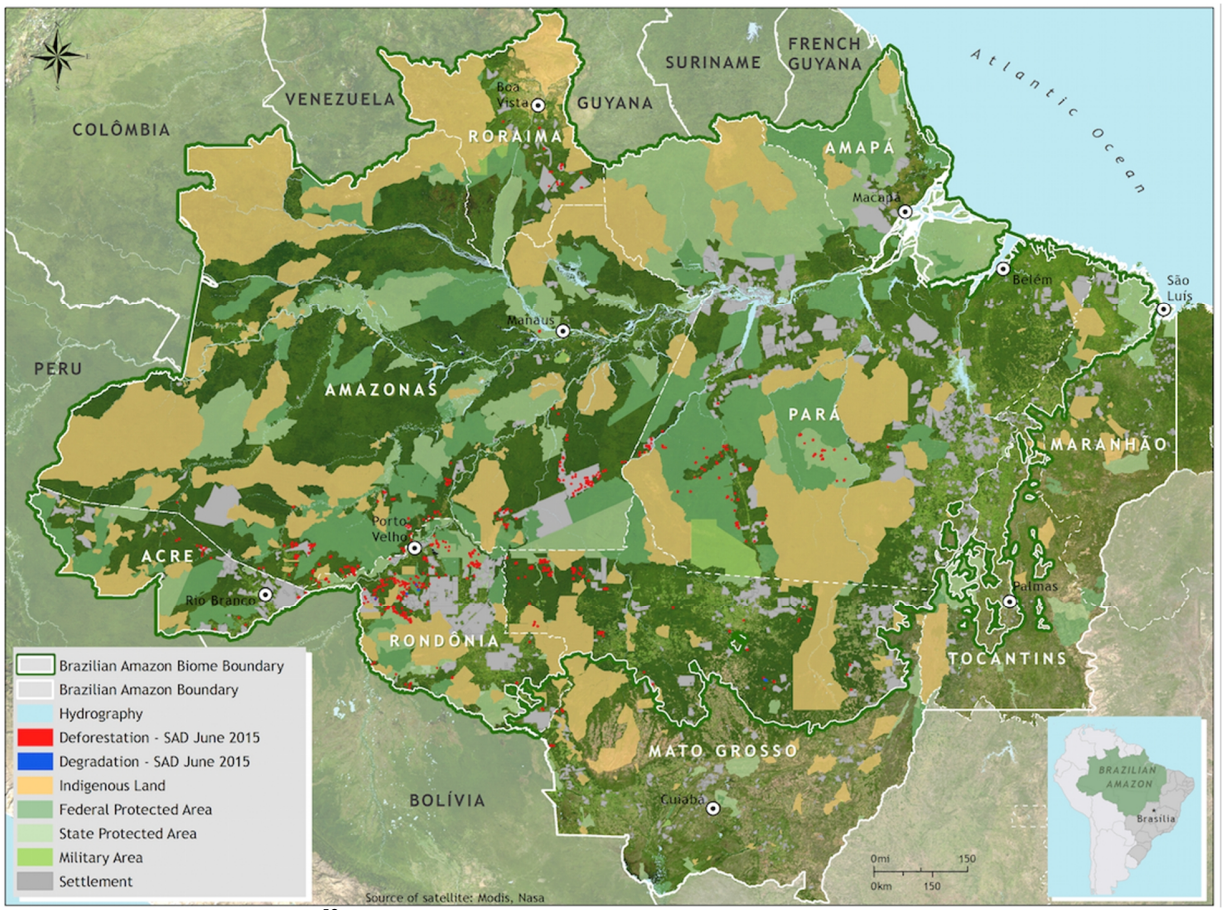
[47] (n 17) 67.

[48] (n 17) 106.

[49] (n 17) 106.

[50] (n 17) 106. Another example of the result of mining in the Amazon is an area called Serra Pelada (Bald Mountain) in the state of Pará, that was a gold mine and today is a lake contaminated with mercury. The consequences of such activities are irreversible. For example, soil erosion makes it impossible for agricultural or other activities.

protecting and conserving all living organisms are examples of what has been causing biodiversity loss in the Amazon area.[51]



Source: IMAZON[52]

3 Nature Conservation

3.1 The United Nation's role and the road to sustainable development

During the latter part of the 20th Century, conservation of nature, biodiversity and ecosystems caught the attention of the leaders of the world and became an important issue as people realised resources, nature and human survival were at risk. To tackle the environmental problems and

[51] (n 17) 106.

[52] Fonseca, A., *et al. Deforestation report for the Brazilian Amazon (June 2015) SAD* (IMAZON/SAD) <http://imazon.org.br/publicacoes/deforestation-report-for-the-brazilian-amazon-june-2015-sad/?lang=en> accessed 24 October 2015. In June 2015 the deforestation was of 494 square kilometres, with a cloud cover of 15% of the territory. See also (n 17) 137.

sustain the diversity of life on earth, states and other actors[53] have entered into international cooperation[54] to assist each other as they share common preservation goals. In this respect, the UN has a fundamental role in guiding, leading and influencing the actions and conduct of states, international institutions, legal entities and the whole of society on the road to protect and conserve the human environment. Accordingly, some significant resolutions[55] and several essential treaties[56] have influenced Brazil by bringing awareness to emerging environmental issues and the need for sustainable development.[57] In this sense, the battle for further nature conservation in the Brazilian Amazon has been an issue that has been constantly debated for the last thirty years, where procedures to create, improve and achieve sustainability have been challenged. For this reason, and as a developing country, Brazil has to solve its environmental problems without compromising the economy and the necessary development. [58]

Several environmental law principles have their foundation in international instruments, including both soft and hard law instruments, and international courts have further elaborated on some of them.[59] As environmental law principles play a decisive role in relation to the Brazilian Amazon, three principles will be address below. These are the principle of permanent sovereignty over natural resources (PSNR), the precautionary principle (PP) and the principle of sustainable development (SD).

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[53] Including international organizations, supranational organizations, nongovernmental organizations (NGOs) and other sectors of civil society.

[54] See further the United Nations Charter (24 October 1945) art 1 (3) and Chapter 9 about international co-operation amongst nations.

[55] cf, *inter alia*, Economic Development and the Conservation of Nature (18 December 1962) United Nations General Assembly - UNGA Res 1831 (XVII) UN Doc. A/5344; Historical responsibility of States for the preservation of nature for present and future generations (30 October 1980) UNGA Res 35/8 UN Doc. A/35/L.7, Add 1; Institutional and Financial Arrangements for International Environmental Cooperation (15 December 1972) UNGA Res 2997 (XXVII) UN Doc. A/8901; World Charter of Nature (28 October 1982) UNGA Res A/RES/37/7 UN Doc. A/37/L.4, Add. 1; Report on the World Commission on Environment and Development UNGA Res 42/187 (11 December 1987); Rio Declaration on Environment and Development (A/Conf.151/26) (14 June 1992).

[56] cf, *inter alia*, Western Hemisphere Convention (n 1); Ramsar Convention (n 3); CITES Convention (n 2); Convention on Biological Diversity (n 6); as well as non-binding declarations: Declaration of the United Nations Conference on the Human Environment (16 June 1972) Stockholm UN Doc A/Conf.48/14/Rev 1 (UNCHE); Gro Harlem Brundtland *Our Common Future: World Commission on Environment and Development* A/42/427 (Oxford University Press 1987) (WECD); United Nations Conference on Environment and Development, and its five resulting documents (June 1992) Rio de Janeiro (UNCED).

[57] Anthony B. Rylands, Luiz Paulo de S. Pinto. *Conservação da Biodiversidade da Amazônia Brasileira: Uma análise do sistema de unidades de conservação* (Fundação Brasileira para o Desenvolvimento Sustentável 1998) 4, 7-8.

[58] ibid 7-8.

[59] See for instance *Gabcikovo-Nagymaros Project case, Hungary v. Slovakia*. (1997) Judgement of the International Court of Justice – ICJ, 78. < http://www.icj-cij.org/docket/files/92/7375.pdf > accessed 24 October 2015.

3.1.1 Permanent Sovereignty over Natural Resources

Entrenched in Principle 21 of the United Nations Conference on the Human Environment (hereinafter Stockholm Declaration),[60] the principle of PSNR can also be found in a number of UN General Assembly resolutions.[61] The article text is almost repeated verbatim – except for the word *developmental* – in Principle 2 of the United Nations Conference on Environment and Development (hereinafter Rio Declaration).[62] In view of that, the principle attempts to balance the rights and obligations of states in regards to natural resources and has already customary status in international law. The principle has also divided industrialized and developing countries with the debate of environment versus development. It involves wide, problematic concepts such as, the right to development, a distinguished scope of obligations among developed and developing countries, and how to achieve the Declaration's objectives.[63] Since the preparation of the Stockholm Declaration,[64] the debates among industrialized and developing countries have been marked by their divergent opinions. For the most part, industrialized countries have shown a concerned position in relation to the PSNR and wish to put the environment in first place.[65] In contrast to the industrialized countries, the developing countries have voiced concerns in relation to their sovereignty,[66] standing for a more protective position towards their own policies and rejecting any external influence. For this matter, Brazil declared that:

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[60] (n 56) Principle 2 of the Rio Declaration is almost identical and affirms that "States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction."

[61] cf, *inter alia*, 'Right to exploit freely natural wealth and resources' (21 October 1952) UNGA Res 626 (VII); 'Permanent Sovereignty over Natural Resources' (14 December 1962) UNGA Res 1803 (XVII); 'Permanent Sovereignty over Natural Resources of Developing Countries' (18 December 1972) UNGA Res 3016 (XXVII).

[62] (n 56)

[63] Nico Schrijver. *Sovereignty over Natural Resources – Balancing Rights and Duties* (Cambridge 1997) 125-127, 136.

[64] (n 56)

[65] (n 63) 125. For instance, Sweden held that "In bringing about economic and social development and adequate conditions for all, States, whether acting individually in the exercise of their sovereignty over their natural resources or in concert through international organizations, *must* use their power to preserve and enhance the human environment". The Netherlands suggested: "Each State, when exercising sovereignty over its natural resources for economic and social development, shall take due account of the effect of its activities on the ecological balance of the biosphere".

[66] Michael Bowman, *et al. Lyster's International Wildlife Law* (2nd edn, Cambridge 2010) 48. As explained by Simon Lyster: "Sovereignty' concerns the allocation and exercise of supreme power and authority within a given legal order".

> Each country has the sovereign right to exploit its own resources in accordance with its own environmental policies, standards and criteria, in such a manner as to avoid producing harmful effects beyond its national jurisdiction. [67]

As Schrijver points out, Brazil was also opposed to the final version of the preamble of the declaration, trying to delete the second part regarding the responsibility.[68] It is evident that Brazil remains of the same opinion because it still defends its national policy and economic development despite the environmental consequences and forgets its duty to prevent, control and reduce environmental harm.[69] This reflects the failure of the Stockholm Declaration to effectively impose explicit obligations on the countries in respect to national management of resources.[70]

3.1.2 Precautionary Principle

The precautionary approach (PA), or the precautionary principle, requires preventive action in order to avoid harmful and irreparable consequences to the environment. It is, *inter alia*, stipulated in the Rio Declaration in principle 15 and reads as follows:

> In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.[71]

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[67] (n 63) 125-127.

[68] (n 63) 126-127. The Preparatory Committee's preamble declared: "States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction." Report of the Preparatory Committee for the United Nations Conference on the Human Environment, Second Session 1971 (A/CONF.48/PC.9). The same text is stated in the UNEP draft "Principles of Conduct in the Field of the Environment for the Guidance of States in the Conservation and Harmonious Utilization of Natural Resources Shared by Two or More States" from 1978, Principle 3 (1), bringing more specific version of the principle of PSNR with regard to States cooperation and responsibilities in shared natural resources. UNGA Res 34/186 (18 December 1919).

[69] See for example the approach adopted by the Brazilian Government in the construction of the Belo Monte hydroelectric Dam at the Xingu River (Pará state in Brazilian Amazon). The dam is the first of several that must be built in order to generate the amount of electricity planed by the government. The government insisted on building the dam even though it threatens all the indigenous peoples and the wildlife in the region. The construction has already expelled many indigenous families from the area, taking away their land and the river that is necessary for their survival. Brazil has many other sustainable options to generate energy for the population, but has chosen an unsustainable way with the argument that it is cheaper. <http://amazonwatch.org/work/belo-monte-dam> accessed 5 February 2015.

[70] (n 63). Schrijver explains that in order to affirm that the principle specifies that PSNR must be applied, it is necessary to interpret together the Principles 2, 5 and 21 of the Declaration, 127.

[71] (n 56) The principle is also noted and reinforced in the preamble of CBD (1992): "…where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat." In the other hand, the UNFCCC in the article 3 (3), conveyed

The PA is one of the most important principles of international environmental law.[72] The content and international status of the principle is still debated due to its vagueness in relation to how to apply it as it mentions that action must be taken according to the states capabilities and lack of full scientific certainty shall not be used as a reason for postponing prevention.[73] The states and authorities responsible for environmental protection must take a preventive approach and refrain before taking harmful measures, considering that uncertainty is not a reason for inaction.[74]

In Brazil, PA was first established in the Federal Constitution (CF/88) in art. 225, *caput*, as a duty of the Government and community to defend and preserve a balanced environment for the present and future generations. In this sense, the Biosafety Law n. 11.105/2005 expressly refers to the principle in its preliminary expositions of guidelines: "stimulating scientific advancement in the area of biosafety and biotechnology, protection of life and human health, animal and plant, and the principle of precaution environmental protection."

Similarly, another ordinary law allows for severe penalties for not adopting precautionary measures in cases where there is risk of serious or irreparable environmental harm. Thus, law n. 9.605 of February 12, 1998 (Environmental Crimes Law) states: "Art. 54. Causing pollution of any kind at such levels that result or may result in damage to human health or cause the death of animals or significant destruction of flora: §3. The same penalties provided in the preceding paragraph fail to adopt when so required by the competent authority, precautionary measures against any risk of serious or irreversible environmental damage."

3.1.3 Environmental Impact Assessment

EIA is defined as 'a national procedure for evaluating the likely impact of a proposed activity on the environment'[75]. It is, *inter alia*, established in Principle 17 of Rio Declaration as follows:

a more action oriented approach declaring that "The parties should take precautionary measures to anticipate, prevent or minimize the cause of climate change and mitigate its adverse effects..."

[72] See further Ulrich Beyerlin and Thilo Marauhn. *International Environmental Law* (Hart 2011) 47-56.

[73] ibid.

[74] ibid.

[75] Article 1 (VI) of the Espoo Convention on Environmental Impact Assessment in a Transboundary Context of 25 February 1991, in force since 10 September 1997, UNTS 309, binding on European Union Member States.

> 'Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority'[76]

In Brazil, PA is associated with EIA, *e.g.* in the Federal Constitution. National legislation establishes that, in order to avoid possible environmental harm of any planned activity, EIA must be first concluded. EIA is, in Brazil, the primary instrument adopted to prevent environmental damage when evaluating a certain activity, determining the degree of danger, or pointing out the extent or magnitude of the impact. PA and EIA are established in the Brazilian Federal Constitution (CF/88) in art. 225, §1°, IV: "demand, in the manner prescribed by law, for the installation of works and activities which may potentially cause significant degradation of the environment, a prior environmental impact study, which shall be made public". Also, the federal law n. 6.938/1981 (National Environment Policy Law) Article 4, paragraphs I and IV, state that "The National Environmental Policy will aim at: I - to reconcile the economic and social development with the preservation of the quality of the environment and ecological balance; IV - the development of research and s national oriented technology for the rational use of environmental resources."

3.1.3.1 Environmental licensing in Brazil

Environmental licensing[77] is another tool for the prevention of environmental degradation. Conducted through a complex and bureaucratic process in Brazil,[78] environmental licensing[79]

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[76] (n 56)

[77] Environmental licensing came in 1975 as a state mechanism and local control of pollution from predefined sources. The Law of the National Environmental Policy (Law n. 6.938/1981) extended the licensing scope, making it mandatory for all the projects and activities with potential to affect the quality of the environment. That law was regulated by Decree n. 88.351/1983, which created three environmental licenses: Advanced License, Installation License and Operating License, further explained (n 76). The Resolution of CONAMA 01/1986 came to give force to the requirement of EIA and which later was established by the Constitution of 1988, art. 225, § 1°, IV. Then, the enactment of Law n. 7.804/1989, which amended the Law n. 6.938/1981, and the edition of Decree n. 99.247/1990. Also the Law n. 9.605/1998 for Environmental Crimes, and lately the edition of the Complementary Law n. 140/2011 which brought little change to this whole scenario.
<http://www.law.harvard.edu/faculty/unger/portuguese/pdfs/11_Licenciamento_ambiental1.pdf> accessed 20 February 2015.

[78] After EIA, the authorities advanced to Environmental Impact Report – RIMA. The report is responsible for surveys and conclusions, where the licensor public agency reviews the report indicating the project conditions. Once issued, the RIMA will be published in an announcement, publicized by the local press opening within 45 days for a public hearing request that may be required for fifty or more citizens or the Public Prosecutor (Ministério Público). The final report is prepared after any number of hearings and can authorize a preliminary licensing to perform the work or reject the project.

[79] The Federal Law n. 6.938 (31 August 1981) concerns national environmental management. It also created and gave power to CONAMA to establish norms and regulations. Following this law and CONAMA Resolution n.237/1997,

became problematic due to delays in the process, which can take up to five years, and jurisdictional conflicts over environmental matters related to the licensing and execution of the EIA and RIMA. The Complementary Law n. 140/2011 and CONAMA Resolution n 237/1997[80] should have changed this but that did not happen. It brought cooperation amongst the federal, state, district and municipal powers in matters regarding administrative proceedings arising from the exercise of common competences, as the preservation and protection of the environment, including forestry management. However, problems of overlapping powers of federal entities regarding environmental licensing still remain. The law just moves the problem ahead to other entities, as the Complementary Law 140/2011 transfers to the National Tripartite Commission and the Environmental States Councils the mission to define the types of impacts that will in practice, define when an activity is licensed by the federal, state or local environmental agency. It leaves this important issue to mere administrative discretion. Thus, the problems still persist because the legislation gives some direction, improving, but not solving, all previous issues.

Licensing in Brazil is still a controversial subject in environmental legislation.[81] Despite legal requirements and procedures, decisions are also politically motivated due to economic interests.[82] Scholars and environmental law practitioners[83] have pointed out several problems born

environmental licensing in Brazil happens in three spheres: federal, state and municipal, according to the location of the proposed activity. There are three types of licenses: advance license (Licença Previa–LP) as a preliminary license given at the stage of the project's viability study EIA/RIMA (*inter alia*, localisation, economic evaluation, financing); the next is the installation license (Licença de Instalação–LI) which will present the executive designs of the project and the LP, analysed by the State Organ of Environment (Órgãos Estaduais de Meio Ambiente) OEMAs in order to give the developer the LI; and the last license is the operation license (Licença de Operação–LO) which is granted after the OEMAs analysis whether all the mitigation measures and RIMA findings have been executed. <http://www.mma.gov.br/estruturas/sqa_pnla/_arquivos/Procedimentos.pdf > accessed 20 February 2015.

[80] Secretaria de Assuntos Estratégicos da Presidência da República 'Licenciamento Ambiental' [2009] <http://www.law.harvard.edu/faculty/unger/portuguese/pdfs/11_Licenciamento_ambiental1.pdf> accessed 20 February 2015.

[81] New legislation creating an environmental fast-track or summary proceeding for emissions in environmental licensing. It weakened the process of risk evaluation before granting an environmental license as the Law Project 654/2015 (PLS 654/15) was recently approved. It speeds the process from around five years to eight months, not improving the quality of EIA/RIMA evaluation, but just taking the precautionary measures for granted if the process is accelerated. < http://www25.senado.leg.br/web/atividade/materias/-/materia/123372 > accessed 26 November 2015.

[82] For instance, IBAMA granted an operation license to the Belo Monte Dam, authorizing its reservoirs to be filled, despite the noncompliance with necessary conditions to guarantee the life, health and integrity of indigenous peoples and populations in the area. Belo Monte as the world's third-largest dam. It will become a significant contributor to climate change as it will emit greenhouse gases including carbon dioxide and methane. <http://www.aida-americas.org/sites/default/files/belo_monte_fact_sheet_eng_15-08-19.pdf> and IBAMA LO <http://ibama.gov.br/phocadownload/noticias_ambientais/lo_%201317_uhe_belo_monte.pdf> accessed 25 November 2015.

[83] See further Andrea Vulcanis 'Os Problemas do Licenciamento Ambiental e a Reforma do Instrumento' <http://www.planetaverde.org/biblioteca-virtual/artigos-juridicos/os-problemas-do-licenciamento-ambiental-e-a-reforma-do-instrumento > accessed 20 February 2015.

from ineffective legislation: lack of transparency and accessibility to administrative process, insufficiently reasoned decisions, low quality of EIA studies, ideological contamination where the process is easily manipulated by political and economic motives that taint the results of EIA/RIMA, excess of bureaucratic requirements, undue delay, unqualified staff to proceed with the evaluation of the EIA/RIMA, published decisions on EIA/RIMA are not accessible to the public, and very little indication of the development from responsible authorities such as the Strategic Environmental Assessment (SEA).[84]

Supervision and inspection over authorized projects are still not adequate. Between the constitutional imposition of EIA in 1988 and the advent of the Complementary Law 140/2011, 23 years lapsed. Before 2011, practice shows that all spheres (federal, state, district and municipal) wanted to issue environmental licenses because they generate revenue. However, agencies did not want to enforce the laws, because this only generates expenses, since a very small percentage of the environmental administrative fines are actually paid. The Complementary Law 140/2011 clarified this aspect by stating that "who is licensing, is to supervise" (art. 17). This is significant, because now the body responsible for the licensing or authorization of a project or activity is also responsible for issuing fines for environmental harms and for establishing administrative procedures for investigation of violations of environmental law from licensed or authorized activity. However, this improvement does not guarantee effectiveness.

Federal legislation is insufficient to completely establish accurate procedures to administer an efficient process to prevent harm to, preserve and conserve the environment. The reality is the opposite of what is established by law, as will be discussed further in Chapter 4. For instance, the enforcement of primary law is still inadequate to succeed in protecting the Amazon. The operationalization and supervision of norms and rules set by responsible authorities do not correspond to the necessary procedures to carry out the protection of nature. Inaccuracies also happen in the local and the administrative level where precaution is not implemented and plans to change this are not easily implemented.[85]

[84] See further John Glasson and Nemesio Neves B. Salvador, 'EIA in Brazil: a procedures-practice gap. A comparative study with reference to the European Union, and especially the UK' (2000) SD 191. <http://www.sciencedirect.com/science/article/pii/S0195925599000438# > accessed 20 February 2015.
[85] See *infra*, chapter 4.

3.1.3 Sustainable development

The concept of sustainable development[86] is still considered disconnected to law, making it difficult to determine its legal status and to apply and enforce it in domestic environmental law.[87] The main issue in relation to the application of sustainable development is how to effectively operate and enforce it in domestic legislation. The CF/1988 does not mention the term sustainable development per se, but encompasses the concept in Article 225, as follows:

> "Everyone has the right to an ecologically balanced environment and of common use and essential to a healthy quality of life, imposing the Government and society the duty to defend it and preserve it for present and future generations."[88]

Thus, the environmental law section of the CF/1988 has the sustainable development concept as the primary constitutional principle that supports its whole domestic environmental legislation. The principle represents an imperative force for the development of domestic law. So far, conservation areas and protective laws are the central tools used by the Brazilian government to protect the Amazon. Despite of being present in law, the operationalization by governments and authorities responsible for the protection of the Amazon do not reflect what is mandated by the legislation.[89] In reality, there is a gap between legislation and implementation, where the application of law seems almost impossible to fulfil. There is a long path between abstract legislation, implementation and enforcement. Even though sustainable development is still a distant dream to be achieved in the Brazilian Amazon, the government has shown lately – at least with attempts to develop complementary legislation – more attention to environmental problems

[86] (n 55) Despite the journey for the building of the concept of sustainable development, it is important to bear in mind the most essential reference to the concept in the Rio Declaration (1992) in its Principle 4 and Principle 27, which asserts respectively that: "In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it." and "States and people shall cooperate in good faith in a spirit of partnership in the fulfilment of the principles embodied in this Declaration and in the further development of international law in the field of sustainable development."

[87] Aðalheiður Jóhannsdóttir *Considerations on the Development of Environmental Law in the Light of the concept of Sustainable Development* [2005] Ympäristöjuridiikka 27.

[88] (n 10) Capítulo VI – Do Meio Ambiente (Chapter VI – Environment) "Art. 225 - Todos têm direito ao meio ambiente ecologicamente equilibrado, bem de uso comum do povo e essencial à sadia qualidade de vida, impondo-se ao Poder Público e à coletividade o dever de defendê-lo e preservá-lo para as presentes e futuras gerações." Translated by the author.

[89] See further chapter 4.

encountered. However, the reason for ineffectiveness of their actions is still a point for examination.[90]

3.2 The Role of Law in Nature Conservation

Nature conservation law in international treaties has a positive role[91] in enforcing nature protection by assisting states with mechanisms to combine environmental policies for the safeguard of species and habitats and for the promotion of biodiversity. Nature conservation law is essential to prevent, conserve, protect and halt environmental degradation. The law works with the results of modern scientific research to protect wildlife and guide environmental management to support biodiversity. It also assists states in resolving their domestic conflicts such as disputes over private property rights in opposition to public environmental interest.

Regarding the Brazilian Amazon, the same occurs with the national law, which is ample and relatively new, where federal law works jointly with state and municipal law. These laws have not been completely effective in protecting the Amazon. Scientific research shows that the enforcement of the laws to combat environmental issues is sometimes completely ineffective due to slowdown and other factors. Nonetheless, the Brazilian law has developed considerably throughout the last thirty years, but still lacks essential effectiveness.

4 Brazil's international obligations in the field of nature conservation

Over the past decades, Brazil has accepted several MEAs that involve measures to protect and conserve its natural environment and to cooperate globally to protect the international environment. Despite of some conflicts of interest, states take responsibilities from MEAs and incorporate them into their national legal systems in order for the MEAs to be effective. Brazil follows the monist school and the procedure for signing and ratifying international treaties is laid down in the Constitution and general law.

The purpose of the following section is to describe, analyse and compare the main responsibilities of the MEAs and other instruments that are of interest[92] and to discuss them in

[90] See further chapter 4.
[91] Patricia Birnie, *et. al*. 'Chapter 11 – Conservation of Nature, Ecosystems and Biodiversity'. *International Law and the Environment*. (3rd ed Oxford University Press 2009) 593-594. The authors explain that law has many purposes as it can be: "distributive, determining who is to have ownership or access to the resources; conservatory, preserving the resources as such, or at least doing so at levels that can sustain exploitation; or proscriptive, prohibiting, for conservatory, ethical, or moral reasons, exploitation of the resource or particular forms and methods of exploitation."
[92] See the list in Chapter 1.

relation to their implementation[93] into the Brazilian legal system. The approach that will be used is the following: first, identify the relevant obligations of the MEA in question, including the relevant Conference of the Parties (CoP) decisions on nature conservation and the ecosystem approach.[94] Second, the principal legislation or other measures that have been accepted nationally will be identified. Third, if and how the relevant laws or other measures have been implemented will be investigated. Finally, enforcement[95] weaknesses will be identified and compliance endeavours will be assessed.[96]

The Brazilian Legal System and Constitutional Set-up

The Brazilian legal system is a civil law system. In October 5th, 1988, Brazil promulgated its first and current democratic Constitution with the following characteristics: republic as a form of government; presidential system of government; federal form of state; organization of powers, as the classic tripartite powers theory of Montesquieu[97] – executive, legislative and judiciary – independent and harmonious among themselves. As a federal republic with three administrative levels: federal, state and municipal, the 26 federal states and the Federal District of Brasília have autonomy to develop their own state constitutions and laws, but their legislative powers are limited by the principles laid down in the Constitution. It is important to note that every law in the Brazilian legal system, whether produced from international or national legislation, is deemed to be published by the government and depends on the government promulgation to be integrated into the national legal *acquis*. Thus, the publicity of the existence of the treaty means it is valid in Brazil with present or imminent effect.

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[93] *Manual on Compliance with and Enforcement of Multilateral Environmental Agreements* (UNEP 2006) 32. Considering UNEP's definitions: Implementation refers to, *inter alia*, all relevant laws, regulations, policies, and other measures and initiatives, that contracting parties adopt and/or take to meet their obligations under a multilateral environmental agreement and its amendments, if any."

[94] *Bowman* (n 66) 13. Lyster explained that an "ecologically based approach to conservation is whereby species are considered not merely in isolation but as part of the wider ecosystem in which they function."

[95] (n 93) 33. Enforcement means the range of procedures and actions employed by a state, its competent authorities and agencies to ensure that organizations or persons, potentially failing to comply with environmental laws or regulations implementing multilateral environmental agreements, can be brought or returned into compliance and/or punished through civil, administrative or criminal action."

[96] (n 93) 32. Compliance refers to the extent of fulfilment by a state of its obligations under an MEA, i.e., whether it is in compliance or not. Taking the UNEP Guidelines definitions, it is clarified that compliance is generally used in an international context, and enforcement is generally used in a national one.

[97] Charles de Secondat, Baron de Montesquieu. *The Spirit of Laws* 1798. <http://www.constitution.org/cm/sol_11.htm#016> accessed 20 September 2015.

Article 5, paragraphs 2 and 3 of CF/1988, adopted the system of automatic incorporation of international human rights treaties. This reflects the monistic conception of governance. Brazil follows the line of nationalistic monism in respect to international human rights treaties, but what about MEAs? The topic is still largely debated and the Supreme Federal Court of Brazil (STF) has not yet decided on it. If international treaties treat the subject of protection of human rights – as MEAs, that are in respect of protection of an ecologically balanced environment – then, they are presented as constitutional amendments, above domestic law in the Brazilian legal system.[98] But, if treaties do not tackle human rights matters, then they are on the same level as domestic laws and below the Constitution.

CF/1988 and the decentralization of environmental protection

CF/1988 on Art. 23 (common responsibility) and Art. 24[99] (to legislate concurrently), provide explicit provisions regarding forests. They declare that federal, state and municipal governments have the power to preserve the forests, fauna and flora, and that they may legislate concurrently on forests and fauna. However, the split between rights and duties provided for in the CF/1988 was not sufficiently detailed and is waiting for constitutional amendment. Meanwhile, an institutional and administrative void has been present in various sectors, as in the environmental area.

Decentralized general rules for the protection of Area of Permanent Preservation and Legal Reserves are also provided by the FC/2012. It also gives concurrent government obligations of environmental management of these areas as follows: "Art. 1-A, IV - common responsibility of the Federal Government, States, Federal District and municipalities, in collaboration with civil society, in creating policies for the preservation and restoration of native vegetation and its ecological and social functions in urban and rural areas."

Decentralization of environmental protection is an irreversible process throughout the three spheres of government of Brazil. It has not been effective, due to economic and social realities of

[98] *Banco Bradesco S/A v Luciano C. Santos* [2008] [RE466.343-SP] (STF) 60. Minister Cezar Peluso decided: "The special character of international diplomas on human rights reserve them specific place in the legal system, being under the Constitution, but above domestic law. The normative status is above the ordinary law of international treaties on human rights signed by Brazil, therefore, makes the infra law unenforceable if in conflict with it, whether prior or after the act of ratification." <http://www.stf.jus.br/imprensa/pdf/re466343.pdf> accessed November 16, 2015.

[99] Article 24, "VI - forests, hunting, fishing, fauna, nature conservation, soil protection and natural resources, environmental protection and pollution control; VII - protection of the historical, cultural, artistic, tourist and landscape; VIII - by environmental damage liability, consumer, goods and rights of artistic, aesthetic, historical, tourist and landscape"

each state and municipality, their concerns about environmental problems and the intensity and the manner they use in environmental management. An example of this is the disparity in environmental commitment between the states of Amazonas and states of the Arc of Deforestation, like Pará. On the one hand, even though not sufficiently adequate, the state of Amazonas seem more engaged in preserving the Amazon by enforcing local laws. On the other hand, Pará is continuously named the state with highest deforestation, together with Mato Grosso and Rondônia, that together constitute the Arc of Deforestation.[100] Because of the autonomy of each state in environmental policy and management, the results vary greatly. It is imperative to strengthen policies and improve enforcement and unification of local laws. Since decentralization is here to stay, the unification of local laws, as per biome, should unite the Brazilian Amazon states for more fruitful preservation results for, obviously with the involvement of local society and NGOs.

4.1 The Western Hemisphere Convention (1940)

4.1.1 Background

The Western Hemisphere Convention is a MEA with the objective of preserving and protecting nature and wildlife, scenery of extraordinary beauty, striking geological formations or regions of aesthetic, historic or scientific value as defined by the Convention.[101] Negotiated under the framework of the Pan American Union, today called Organization of American States (OAS), the Convention was first deliberated at the beginning of World War II and was considered innovative and visionary as its provisions are clear and straightforward in relation to enhancing environmental protection. It seeks to protect fauna and flora, including specifically migratory birds listed in its annex, listing characterized family species.

Due to the Convention's almost non-existent implementation and lack of institutional bodies to supervise, ensure and enforce its provisions, it has not had much effect although it is still legally binding on its parties.[102] Attempts to revive the Convention started in 1979 when an expert group, gathered by the Secretary General of the OAS, considered the possibility of amending the

[100] Amazon Watch – Arc of Deforestation image <http://amazonwatch.org/assets/images/2011-brazil-deforestation-map.gif > accessed December 2, 2015

[101] The Depositary is OAS General Secretariat. Four Conferences of Parties (CoP) were held through the Western Hemisphere Migratory Species Initiative (WHMSI), an initiative to build countries capacity to conserve migratory wildlife involving the Member States of Western Hemisphere Convention and other Conventions, with the objective to enforce national wildlife laws in order to meet international obligations. <http://www.oas.org/dsd/WHMSI/English/Indexv2.htm> accessed November 20, 2015

[102] *Bowman* (n 66) 242.

treaty. The expert group proposed the adoption of new criteria for the protection of biodiversity, including stability and diversity of ecology, biological productivity, continuous long-term production of renewable natural resources, protection of soil and hydrographic and marine ecology, integrated rural development and continuous research and monitoring.[103] The expert group also proposed the establishment of an institutional mechanism and improved procedures to regulate international trade. Later, the Inter-American Judicial Committee of the OAS considered using the Convention as the basis for an Inter-American system for nature conservation that has not happened.[104] According to OAS technical document for the 1996 Conference, it was acknowledged that the Western Hemisphere Convention has remained relatively inactive.[105]

Cooperation in conservation was a five years capacity building project between UNEP and WHMSI, born in the Second Conference of Countries, held in 2006 in San José.[106] The project covered training in priority areas, as main problems facing the management and utilization of its migratory species are intimately connected with the causes and effects of land degradation, desertification and climate change. It adopted an integrated ecosystem management policy, consistent with sustainable development principles, improving on communication about conservation issues among Western Hemisphere countries.[107]

4.1.2 Principal obligations

After the creation of the Convention, American heads of state have gathered to sign other agreements and to cooperate with the exchange of scientific and technical biodiversity information. In 1996, the Summit of the Americas on Sustainable Development, held in Bolivia, created the Inter-American Biodiversity Information Network (IABIN) to provide policy makers with access to biodiversity information and data. Cooperation amongst the American states has improved wildlife conservation, but the influence of the Western Hemisphere Convention is uncertain.[108] As the Convention failed to set an effective coordination and engagement on the national level regarding regular meetings and reporting requirements from its parties, there is no information about Brazil's implementation. Nevertheless, Brazil presented a list of flora species and wild

[103] Phillip Sands, *Principles of International Environmental Law* (2nd ed, Cambridge University Press 2003) 528.
[104] ibid.
[105] *Bowman* (n 66) 261. OAS Program for the Development of Law on Environment and Sustainable Development in the Americas, September 13, 1996, section 3.2.
[106] Second CoP, held in San José, Costa Rica, January 2006. <http://www.oas.org/dsd/WHMSI/English/WHMSI_Project_Document_english.pdf> accessed November 20, 2015.
[107] ibid, 19.
[108] *Bowman* (n 66) 256.

animals deserving "special or absolute protection" (Annex of Convention). Brazilian legislation also influenced the Convention, as it had the most advanced forestry protection regulations in Latin America at that time.[109]

According to relevant provisions, signatory states undertake the establishment of national parks, national reserves, nature monuments, and strict wilderness reserves. Party states are to notify the Pan American Union of the establishment of these areas and the methods of administrative control adopted (Art. II). Only a legislative authority can modify or erase the boundaries of national parks. The resources of a national park shall not be subject to exploitation for commercial profit. The Convention establishes trade restrictions, such as the prohibition of hunting, killing and capturing of members of the fauna and destruction or collection of the flora in national parks except by or under the direction or control of park authorities or authorized scientific investigators (Art. III). Maintenance of wilderness reserves may not be violated, as far as practicable, except for duly authorized scientific investigations or government inspections, consistent with the purposes for which the area was established (Art. IV). Governments must adopt or propose, appropriate legislation and regulations for the protection and preservation of flora and fauna within their national boundaries, outside of the national parks, national reserves, nature monuments, or strict wilderness reserves (Art. V). International cooperation amongst party states gives proper assistance, consistent with national laws, to research and publish the results (Art. VI). Governments shall adopt appropriate measures for the protection of migratory birds of economic and aesthetic value or to prevent the threatened extinction of any given species; including the rational utilization of migratory birds for the purpose of sports, food, commerce, industry scientific study and investigation (Art. VII). Protection of species mentioned in the Annex is of special urgency and importance. Hunting, killing, capturing, or taking these is only allowed with permission of the appropriate authority and under special circumstances, as in scientific purposes or when essential for the administration of the area where it is found (Art. VIII). Article XI introduces trade controls and regulation of importation, exportation and transit of protected fauna and flora or any part thereof by the issuing of certificates authorizing the exportation or transit of the species, or otherwise the prohibition of such trade if not accompanied by the certificate of lawful exportation.

[109] At the time, the first Brazilian Forest Code, Decree n. 23.793, of January 23, 1934, Art. 1, was in force and it declared that all forests were of national interest.

4.1.3 Brazilian Legislation

Brazil signed the Convention on December 27, 1940, and ratified it on February 13, 1948, with no reservations. It was promulgated through the Legislative Decree n. 58.054 of 23 of March 1966. Prior to the Convention, the Forest Code Law n. 4.771/1965 established the creation of national parks, state parks and municipality parks (art. 5, a). Afterwards, CF/1988, Article 225 (1) (I, II, III, VII), stipulated that a federal law must regulate areas of protection: "(1) (III) define, in all units of the Federation, territorial spaces and their components to be specially protected, and the alteration and suppression allowed only by means of law, and any use that compromises the integrity of the attributes which justify their protection." Twelve years later, Law n. 9.985/2000 (Brazilian National System of Protected Areas – SNUC) brought about the Protected Areas System, which is regulated by Decree n.4.340/2002, in respect to what was established by CF/1988. Regarding the establishment provisions of national parks and protection and preservation of scenery of extraordinary beauty from Western Hemisphere Convention, Law n. 9.985/2000 has a comparable passage in Articles 4 11, as follows:

> Art. 4 The SNUC has the following objectives: VI - to protect natural landscapes and little changed remarkably scenic beauty;
>
> Art. 11. National Park has as its primary objective the preservation of natural ecosystems of great ecological significance and scenic beauty, making it possible to carry out scientific research and development of educational activities and environmental interpretation, recreational contact nature and ecotourism.

Brazil failed to establish clear provisions regarding protection of migratory bird species in national legislation. Law n. 5.197 from January 3, 1967 (Fauna Protection Law), broadly stipulates fauna protection and does not specifically mention migratory birds. Law n. 9.605/1998 (Environmental Crimes), Art. 29, Paragraph 3, defines wild fauna as including migratory species: "are specimens of wild fauna all those belonging to native species, migratory and any other, water and land, which have all or part of their life cycle occurring within the limits of the Brazilian territory or in Brazilian territorial waters." The legislation that comes closest to the provisions of the Western Hemisphere Convention does not mention migratory species under the scope of the main fauna protection law.

Certificates on the transport and trade in wildlife, also an obligation under the CITES Convention, are enforced through Decree n. 3.607, September 21, 2000 (CITES implementation

law), and are under the control of IBAMA. The existing legislation regarding certificates on trade was actually enforced after assuming the obligations of the CITES Convention and not before that, which indicates another gap in implementing the obligations of the Western Hemisphere Convention.

4.1.3.1 Protected Areas in the Brazilian Amazon

Brazil has been slowly developing a complex program of nature protection:[110] establishing and registering protected areas,[111] managing habitats and ecosystems, developing laws and regulations for the prohibition and establishment of quotas to monitor and control the taking of species during determined seasons, amongst other attempts to conserve biodiversity.[112] These protected areas are divided in two types of units (Law. 9.985/2000, Art. 7), units of integral protection[113] and units of sustainable use, both under the control of government agencies with supervision help from NGOs. The Units of Integral Protection are those intended for preservation of biodiversity, where only scientific research, and in some cases, tourism and environmental educational activities are permitted if provided by prior authorization from the responsible agency. It does not allow for consumption, collection, extraction of timber or mineral products and it does not permit human habitation, except for Wildlife Refugees and Natural Monuments. The Units for Sustainable Use[114] are meant for both biodiversity conservation and sustainable extraction of natural resources. Permissible tourism, environmental education and extraction of forest products, timber and non-

[110] *Áreas Protegidas na Amazônia Brasileira: Avanços e Desafios* (IMAZON 2013) <http://imazon.org.br/areas-protegidas-na-amazonia-brasileira-avancos-e-desafios-2/ > accessed December 10, 2014. Overall, the Brazilian Amazon has 315 Conservation Units (136 federal and 179 from states).

[111] The definition of a protected area adopted by IUCN is: "An area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means." The CBD in its article 2 also defines protected areas as "a geographically defined area, which is designated or regulated and managed to achieve specific conservation objectives." SNUC, Art. 2 (I), conservation units (areas) are defined as "territorial spaces and their environmental resources, including jurisdictional waters, with relevant natural characteristics, legally instituted by the Government, with conservation objectives and defined limits, under special administration regime, which is subject to appropriate guarantees of protection."

[112] *Sands* (n 103) 502-503. The author gives examples of efforts to conserve biodiversity as: the establishment of protected areas; management of habitats and ecosystems; regulation, prohibition, and establishment of quotas and season to control the taking of species; specific regulation to prohibit methods of taking species as well as the introduction of new ones; regulations and/or prohibition of international trade; and the regulation of taking and exploitation that must be subject to compliance with general standards limiting utilisation.

[113] (n 110) SNUC defines integral protection as the "maintenance of free ecosystem changes caused by human interference, only admitted the indirect use of its natural attributes." The categories of this group are: Ecological Station (ESEC), Biological Reserve (Rebio), National / State Park (Parna / PES), Natural Monument (Monat) and Wildlife Refuge (RVS).

[114] (n 110) The categories of this group are: Environmental Protection Area (APA), Area of Relevant Ecological Interest (ARIE), National Forest/State (Flona/Flota), Extractive Reserve (Resex), Fauna Reserve (RF), Sustainable Development Reserve (RDS), Private Reserve of Natural Heritage (PRNP).

timber based, on sustainable management, in accordance with management plan for the unit are allowed within these units. Indigenous populations can remain inside their boundaries, and may carry out activities under a management regime, "in order to ensure the sustainability of renewable environmental resources and ecological processes, maintaining biodiversity and other ecological attributes, in a socially just and economically viable" as stated by SNUC. Another important area is classified as Indigenous Territories (ITs).[115] These are territories of where indigenous people have the right of permanent possession and exclusive use of soil resources, rivers and lakes existing in them, according to CF/1988, Articles 20, XI and 49, XVI.[116] The government, through the National Indian Foundation (FUNAI), is bound to promote the indigenous territories recognition. Altogether, the protected areas covered approximately 44% of the Brazilian Amazon in 2010, with an area of 2.197.485 square kilometres. From this number, 22,2% represented Conservation Units, while Indigenous Lands (legal, declared and identified) represented 21,7% of the same region.[117] Conservation units, when properly managed, are an important tool to halt forest degradation and deforestation.[118]

4.1.4 Enforcement

Besides the law promulgating the Western Hemisphere Convention, no other federal legislation was established in respect to the provisions of the Convention. There is not a responsible agency for execution of the Convention in Brazil and no mechanisms of control or implementation, no national plan of implementation and no reports exit.[119] Nevertheless, the Convention's influence

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[115] (n 110) ITs considered under this publication include those in identification, using constraint to non-Indians, identified, declared, booked and approved by December 2010. In the Brazilian Amazon there are 414 IT, total 1,086,950 km2, in order to protect not only the immense socio-cultural diversity of the region, as the wealth of knowledge and traditional practices that indigenous peoples make of ecosystems and biodiversity.

[116] (n 10)

[117] Adalberto Veríssimo, *et.al*. *Protected Areas in the Brazilian Amazon – Challenges and Opportunities* (IMAZON 2011) 16. <http://www.socioambiental.org/banco_imagens/pdfs/10381.pdf > accessed 2 November 2014. See also: The main Brazilian program for conservation in the Amazon is the SNUC. The Ministry of Environment (MMA) leads a program called Amazon Region Protected Areas Program (ARPA) and it is managed by the Brazilian Biodiversity Fund (FUNBIO). See further the ARPA website: <http://programaarpa.gov.br/en/ > accessed November 2, 2014. See as well that ARPA executes the main Brazilian Government policies and strategies for conservation of the Amazon as the: Sustainable Amazon Plan (PAS), Legal Amazon Deforestation Prevention and Control Action Plan (PPCDAM), National Protected Areas Plan (PNAP), and National Plan for Climate Change (PNMC). Full list of protected areas are found at the website of ARPA: <http://programaarpa.gov.br/english--2/full-list-pas-supported-by-arpa/ > accessed 2 November 2014.

[118] Rhett A. Butler. *New Protected Areas in Brazil contribute to major drop in Amazon deforestation rate*. (Mongabay 2010) <http://news.mongabay.com/2010/06/new-protected-areas-in-brazil-contribute-to-major-drop-in-amazon-deforestation-rate/> accessed 20 November 2015.

[119] Federal Public Prosecutor of Brazil (Ministério Público Federal do Brasil) Standard Description Form of International Norm <http://4ccr.pgr.mpf.mp.br/documentos-e-publicacoes/tratados-

can be seen in the creation and control of conservation units, as mentioned above. Other relevant topics dealt by the Convention, such as certificates for trade and transport in wildlife, were tackled by other conventions, such as CITES, and therefore implemented in obligations assumed under CITES.

4.1.5 Brief Discussion

Although considered a sleeping treaty,[120] the Convention is still highly relevant. However, with no effective enforcement, it was left to influence the nature conservation movement and later Conventions, *e.g.*, CITES and RAMSAR. Despite no direct national implementation, the Western Hemisphere Convention helped influence Brazilian legislation, and vice versa,[121] through SNUC Law n. 9.985/2000 and the Decree n.4.340/2002, in respect to creating and controlling conservation units. Brazil did not fully comply with the Western Hemisphere Convention but is not fully non-compliant either. Conservation areas were already part of national law and were later improved and considerably increased in the Amazon. Still, the main gap remaining is in relation to the migratory birds, which is almost non-existent in domestic law, outside a brief mention in the Environmental Crimes law, as mentioned above, and as a result of other conventions in force, such as CITES.

4.2 RAMSAR (1971)

4.2.1 Background

RAMSAR was negotiated during the 1960's among countries and non-governmental organizations concerned with the increasing degradation and loss of wetland habitat and migratory water bird species. It is the only worldwide treaty that tackles a particular ecosystem (wetlands), and its member states come from all geographic regions of the globe. The core objective of the intergovernmental treaty RAMSAR[122] is "to stem the progressive encroachment on and loss of wetlands now and in the future."[123] At first, there was substantial criticism regarding the

internacionais/docs/formulario_convencao_flora_fauna_e_belezas_cenicas_americas.pdf> accessed 20 November 2015.

[120] *Bowman* (n 66) 261.

[121] (n 109)

[122] (n 3) Convention on Wetlands of International Importance Especially as Waterfowl Habitat, hereinafter referred as RAMSAR. The Convention Secretariat is located in the headquarters of IUCN in Gland, Switzerland.

[123] *C.f.* preamble of the Convention. The official RAMSAR website explains its mission as: "the conservation and wise use of all wetlands through local and national actions and international cooperation, as contribution towards achieving sustainable development throughout the world."

conservation obligations stipulated by the convention, as they were considered insufficiently rigorous.[124] For this reason, the Conference of the Parties (CoP) meetings came about to strengthen such deficiencies by, for example, setting the current Strategic Plan for 2009-2015[125] and its five goals to strategically achieve the implementation of the convention.

4.2.2 Principle obligations

The main right brought by the RAMSAR is the concept of wise use (sustainable use) of wetlands, which means "the maintenance of their ecological character, achieved through the implementation of ecosystem approaches, within the context of sustainable development."[126] This is a requirement to the conservation and sustainable use of wetlands and its resources. In this sense, RAMSAR introduces wise use and restoration[127] as the main management principles of the treaty. The idea of restoration was used in the broad sense and can be confused with rehabilitation, but both are different. To restore can be understood as returning the wetland to a prior state before the disturbance of the ecologic area. To rehabilitate an area is to return it to a functional wetland, but not as before the disturbance.

Amongst the duties in RAMSAR, member states are required to commit to designating suitable wetlands, observing the criteria for inclusion of these wetlands of international importance, considering its responsibilities to conserve and manage the wise use of migratory stocks of waterfowl (Art. 2). Article 3 requires states to formulate and implement planning to promote conservation and the arrangement of information about any ecological character modification on the listed wetlands as a result of technological developments, pollution of other human interference. Article 4 goes on to state that members must work towards wise use through national land-use planning, appropriate policies and legislation, management actions and public education (Art. 4).

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[124] A list of the failing imposed obligations of the convention are identified at the first CoP Recommendation 1.8.

[125] See further CoP 10, Resolution X.1 (Changwon 2008), that tackles the implementation guiding Strategic Plan for 2009-2015 and its five key goals: working towards sustainable use (wise use), developing and maintaining an international network of wetlands of global importance for the conservation of biological diversity, to enhance international cooperation, institutional capacity to effectively implement mechanisms and resources to fulfill the convention's mission, and progress to universal membership.

[126] RAMSAR official website definition: <http://archive.ramsar.org/cda/en/ramsar-about-mission/main/ramsar/1-36-53_4000_0 > accessed January 15, 2015. See also Recommendation from CoP 3, Regina 1987: "The wise use of wetlands is their sustainable utilization for the benefit of humankind in a way compatible with the maintenance of the natural properties of the ecosystem." Also Sustainable utilization is defined as "human use of a wetland so that it may yield the greatest continuous benefit to present generations while maintaining its potential to meet the needs and aspirations of future generations." Natural properties of the ecosystem are defined as "those physical, biological or chemical components, such as soil, water, plants, animals and nutrients, and the interactions between them."

[127] Report on CoP7, Resolution VII.17, held in San José on 10.05.1999, "Restoration as an element of national planning for wetland conservation and wise use."

Finally, signatories must cooperate internationally to implement obligations as in the case of transboundary wetlands and shared water systems (Art. 5).[128]

CoP meetings have developed resolutions to tackle problems and to strengthen and improve implementation. Attendees discussed issues related to the ecosystem approach, setting biological targets and adaptive management. As mentioned above, Resolution X.1 through the Strategic Plan for 2009-2015 sets five key goals regarding the conservation of global biologic diversity.[129] Resolution XI.12,[130] entitled Wetlands and Health: Taking an Ecosystem Approach, systematises wise use and wetlands management to achieve the Millennium Development Goals.[131] Through an ecosystem approach to health and the concept of prevention is better than cure, it sets general management practices for detecting, assessing and managing health risks to prevent and control diseases, working with future planning to reduce risks of diseases emergence, as well as responding to new diseases and managing existing ones. In order to achieve such goals, training and instructing of personnel is necessary to raise awareness regarding risks of diseases in wetlands and communication must promote control and prevention.[132] In CoP 9, Resolution IX.1 Annex D brought "Ecological 'outcome-oriented' indicators for assessing the implementation effectiveness of RAMSAR Convention." The Resolution sets eight biodiversity indicators to help its efficacy and also connects those with targets set in the CBD (to have been achieved by the year 2010) as both Conventions are biodiversity related.[133] In CoP 8, Resolution VIII.3 calls for adaptive management of wetlands to minimize degradation and increase resilience to climate change as well as to improve management practices that promote protection and restoration.

[128] See also the Kushiro Statement regarding commitments and actions in relation to the convention, from Resolution 5.1, Annex 1, CoP 5, June 9,1993, Kushiro, Japan.
[129] (n 123)
[130] Resolution XI.12 adopted at the CoP 11 held in Romania 2012 <http://www.ramsar.org/sites/default/files/documents/pdf/cop11/res/cop11-res12-e.pdf> accessed 20 February 2015.
[131] (A/55/L.2) United Nations General Assembly Millennium Declaration [2000]
[132] (n 126)
[133] Resolution IX.1, Annex D from CoP 9, Kampala, Uganda 8-15 November 2005. <http://archive.ramsar.org/pdf/res/key_res_ix_01_annexd_e.pdf> accessed March 2, 2015. These indicators discuss Wetland resource – status; RAMSAR sites status; Water quality and quantity status; Ramsar sites threats; Wetland management; Species/biogeographic populations status; Threatened Species; Ramsar Site designation progress.

4.2.3 Brazilian legislation

Brazil[134] has so far designated 12 sites to the RAMSAR list, five of them belong to the Amazon: Mamirauá,[135] Parque Nacional do Cabo Orange,[136] Área de Proteção Ambiental da Baixada Maranhense,[137] Área de Proteção Ambiental das Reentrâncias Maranhenses,[138] and Parque Nacional do Araguaia.[139] Although Brazilian law does not specifically mention RAMSAR to properly guard and oversee the activities developed in each site, they still enjoy legal protection. SNUC[140] protects them according to the specific category determined for appropriate protection, such as whether a site belongs to Integral Protection Units or to Sustainable Use Units. In the Brazilian legal classification, the RAMSAR sites are considered Units of Sustainable Use[141] with management plans depending on use, *e.g.* sustainable fisheries. The Areas of Permanent Preservation (APP) functions of these RAMSAR sites are also regulated by the Forestry Code Law n.12.651/2012 (hereinafter FC/2012). Thus, under Art. 10, "In the Pantanal wetlands and plains, the environmentally sustainable use is permitted and should be considered the technical recommendations of official bodies of research, getting new suppression of native vegetation for alternative land use conditional upon authorization from the state environmental agency , based on the recommendations mentioned in this article." Also, in Art. 61-A: "The Permanent Preservation Areas, is authorized exclusively the continuity of agroforestry activities, ecotourism and rural tourism in rural areas consolidated until 22 July 2008."[142]

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[134] Although Brazil is signatory to this convention since February 2, 1971, its ratification only happened by legislative Decree n. 33 of June 16, 1992, having been promulgated by Decree n. 1.905, March 16, 1996, entering into force 1993.
[135] Also known as Mamirauá Sustainable Development Reserve in the Amazonas state, included in the RAMSAR List of in 04/10/93, area of 1,124,000ha. See further the official website of the Mamirauá Reserve: <http://www.mamiraua.org.br/en-us> accessed 5 January 2015. See also: Alyson V. Melo *et al*. *Reserva de Desenvolvimento Sustentável Mamirauá* (Instituto de Desernvolvimento Sustentável de Mamirauá) 40. <http://www.conservation.org.br/publicacoes/files/avesmigratorias/norte/Aves_mamiraua.pdf> accessed 5 January 2015.
[136] Parque Nacional do Cabo Orange (Cabo Orange National Park) in Amapá state, included in the RAMSAR List in 02/02/13, area of 657,328ha. The entry into force in Brazil happened in 24/09/1993, with 12 designated RAMSAR sites and a surface area of 7,225,687 hectares. Information from RAMSAR official website: <http://archive.ramsar.org/cda/en/ramsar-about-sites/main/ramsar/1-36-55_4000_0> accessed 5 January 2015. National Law creating the site: Decreto n.84.913, 15 July,1980.
[137] Área de Proteção Ambiental da Baixada Maranhense, Maranhão state. Included in the Ramsar list in 29/02/2000, created by the State Decree n. 11.900/1991, contains 32 municipalities within an area of 1.775.035,6 ha.
[138] Área de Proteção Ambiental das Reentrâncias Maranhenses, Maranhão state. Included in the Ramsar list in 30/11/1993. Created by the Decree n.11.901/1991, area of 2.680.910 ha, containing 16 municipalities.
[139] Parque Nacional do Araguaia, Tocantins state. Included in the Ramsar list in October 4,1993. This site is an Integral Protection Unit, created in 1959 and regulated by the Decree n.84.844/1980, in an area of 557.714ha.
[140] (n 110)
[141] (n 114)
[142] (n 11)

The principles of conservation and wise use of wetlands are broadly present in some Brazilian environmental policies. Conservation and wise use of wetlands and aquatic environments are scattered throughout the following specific policies: National Environmental Policy, National Plan of Protected Areas, and National Biodiversity Policy. For instance, the National Plan for Protected Areas (PNAP)[143] Decree n. 5.758/2006, stipulates strategies on protection of RAMSAR sites, which must be effectively managed by 2015 (Annex of Decree, part 1). Thought this deadline was not met, the strategies are stated in Sections 3.3 and 8:

> 3.3. General Purpose: to integrate protected areas to broader land and seascapes, in order to maintain its structure and ecological function and socio-cultural.
>
> II - Strategies: h) to propose and implement actions of integration and coordination between the instruments and connectivity conservation areas and other protected areas, highlighting the wetlands;
>
> 8. General Purpose: implement international conventions, treaties and intergovernmental relating to protected areas programs, of which Brazil is a party.
>
> I – Specific Objectives:
>
> f) establish a national policy on wetlands, the scope of the Ramsar Convention;
>
> II - Strategies: j) perform diagnosis and classification of Brazilian wetlands, relating the characteristics of the areas the criteria necessary for international recognition by the Ramsar Convention; and l) formulate draft national policy on wetlands.

At first, FC/2012 did not directly speak to the topic of wetlands by not mentioning wetlands *per se*, but water resources under Areas of Permanent Preservation (APP).[144] It was later altered by Law n. 12.727/2012, which added a definition of wetlands to Art. 3 "XXV - wetlands: wetlands and land surfaces covered periodically by water, originally covered by forests and other vegetation adapted to flooding." APP are closely related to wetlands and are of essential importance for their maintenance as they are designed to protect soil, water and riparian forests. APPs are the areas around springs, along watercourses, ponds, lakes and artificial reservoirs. Their function is to preserve water resources, landscape, geological stability, biodiversity, the flow gene of fauna and flora, soil protection and ensure the population's welfare.[145]

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[143] *C.f.* Decreto n.5.758/2006, which establishes the Plano Nacional de Áreas Protegidas – PNAP (National Plan for Protected Areas).

[144] (n 11) Defines APP in Art. 2: "II - Permanent Preservation Area - APP: protected, covered or not by native vegetation area, with the environmental function of preserving water resources, landscape, geological stability and biodiversity, facilitate gene flow of fauna and flora, protect soil and ensure the well-being of human populations;"

[145] *Florestas para Água e Zonas Úmidas* (MMA) 11 < http://www.mma.gov.br/estruturas/205/_publicacao/205_publicacao29032011115921.pdf> accessed 22 November 2015.

Wetlands are now subject to protection under FC/2012, interpreted as a safeguard to APP in "Art. 6 The expression of permanent preservation, is also considered when declared of social interest by an act of the Chief of the Executive Power, the areas covered with forests and other vegetation aimed at one or more of the following purposes: IX - protecting wetlands, especially those of international importance." Thus, full or partial clearing of vegetation is only possible by permit from the federal government and only for the execution of public utility, social interest activities or low environmental impact activity (Art.8, FC/2012).

FC/2012's failure to establish provisions for compensation in case of intervention or suppression of an APP has created judicial insecurity. Then again, as the RAMSAR sites in the Amazon are located in Conservation Areas, they are also under protection of the Environmental Crimes Law n. 9.985/2000, Articles 8 and 14. This law applies penalties for damage, but no compensation is established in cases of intervention or suppression of an APP. FC/2012 only establishes restoration of rural areas, as expressed in Art. 7.[146]

FC/2012 also created judicial uncertainty regarding the limits of the APP, as they were subject to change.[147] FC/2012 altered the starting point measurement from the larger bed to the regular bed of the river, reducing the limits of the APP to the banks of waterways (Art. 4, I, II). Under the current law, while maintaining the same distances previously established by law, the measurements start from the regular channel of the rivers. The calculation of these APP areas will depend on how the watercourse width is measured, with obvious differences during rainy periods and drought periods. Provisions from Art.4, §4, FC/2012 now exempt natural or artificial accumulations of water with areas less than one hectare from having a permanent preservation strip, affecting several marginal lakes and rivers, which are important as nurseries for several species. The APP was reduced and became vulnerable through FC/2012[148] that disregarded these peculiarities of wetland areas.

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[146] (n 11) "Art. 7 - The vegetation located in Permanent Preservation Area should be maintained by the owner of the area, possessor or occupant under any title, person or entity, public or private. §1 Having been suppression of vegetation located in Permanent Preservation Area, the owner of the area, possessor or occupant under any title is bound to promote the recovery of vegetation, except for authorized uses provided for herein."

[147] Firstly defined by the 1965 Forestry Code, the APP limits on the banks of the rivers, ranged from 5 meters to 150 meters for the width of the stream, starting from the regular bed. In 1986, the Congress increased the minimum distance of APP 5 meters to 30 meters from the regular bed (Law n.7.511), and in 1989, Law n. 7.803 extended again these limits, which were counted from the larger bed watercourses.

[148] STF is analyzing the issue under three proposed Direct Action of Unconstitutionality (Ação Direta de Inconstitucionalidade - ADI) related to the areas of permanent preservation (ADI 4901), the reduction of the legal reserve (ADI 4903) and also to amnesty for those promoting environmental degradation (ADI 4902). <http://www.stf.jus.br/portal/cms/verNoticiaDetalhe.asp?idConteudo=228842 > accessed 22 November 2015.

An important step taken to protect and designate the RAMSAR sites and related issues was the creation of the National Wetlands Committee (Comitê Nacional de Zonas Úmidas – CNZU) in 2010 by MMA through the Decree of October, 23 2003. The Committee issued Recommendation n.7 of June 11, 2015, to the National Water Resources Committee (Comitê Nacional de Recursos Hídricos – CNRH) to add a definition of water resources that would include wetlands and implement legislation on wetlands, but nothing has been done to date.[149] Another unsuccessful Recommendation n.3/2010[150] issued by the Committee was in relation to the changes from the Forestry Code Law n. 4.771/1965 to the new FC/2012 that disregard adequate wetlands APP protection.[151] Through the Recommendation n.5/2012, following the Resolution VII.11 (CoP 7, 1999), the Committee formed general criteria to designate RAMSAR sites to be followed nationally.

4.2.4 Enforcement

Following the monistic principle, Brazilian obligations under RAMSAR started with the ratification and promulgation of the treaty in Brazil. In spite of that, Brazil does not have a specific national policy for wetlands in the Amazon. The government affirms that it has developed other advanced structures to conserve the Brazilian wetlands through, *e.g.*, PNAP, which contains a chapter regarding National Strategy for International Recognized Areas and new provisions on FC/2012.[152] However, the main forest legislation, FC/2012, that incorporates wetlands, weakened safeguards by reducing the protection of areas around them.

Because of this, a question arises: In the Amazon scenario and under current Brazilian law, do wetlands have more protection as Protected Areas or RAMSAR sites? It should be both, but currently the RAMSAR sites in the Amazon are mainly the protected by the SNUC system

[149] For instance, the CNRH Resolution n. 145/2012 establishes guidelines for the preparation of Plans for Water Resources Basins River, among other providences, but it does not mention wetlands.
[150] MMA through National Wetlands Committee – CNZU, Recommendation n.3 of 13 May 2010 <http://www.mma.gov.br/estruturas/205/_arquivos/recomendao_cnzu_n_3_de_130510_205.pdf> accessed 22 November 2015.
[151] (n 148)
[152] See further Report CoP 11 on Brazil, presented in November, 2011, as the report on national implementation, Romania [2012] <http://www.ramsar.org/sites/default/files/documents/2014/national-reports/COP12/cop12_nr_brazil.pdf> accessed 20 January 2015. The Brazilian explanation for the lack of specific legislation for the RAMSAR sites is: "The Brazilian government believes that the best strategy for the country is to concentrate efforts on the implementation of the extensive existing environmental legislation rather than creating a new policy exclusively for wetlands." 14.

(regulated by the Decree n.4.340/2002) and the reality is still adverse.[153] At first, they are established protected areas before becoming RAMSAR sites. So, the justification for the lack of RAMSAR-specific legislation is that these sites are already under special protection under SNUC. There is no specific law regarding RAMSAR. Instead, it has scattered pieces of ineffective law in its defence, *e.g.*, the weakened provisions of FC/2012.

Twenty-two years after the RAMSAR Convention ratification, Brazil still lacks adequate legislation based on scientific knowledge to implement plans and projects to conserve the wetland regions. FC/2012 addresses the issue in Art. 10, but it presents confusing and difficult, if not impossible, application in wetlands. Not even a national wetlands inventory was set up yet. In Brazil, the MMA is the administrative authority and focal point within government structure responsible for coordinating the implementation of the Convention's commitments, with help of other organs such as IBAMA and the National Water Agency.

In Brazil, the National Committee for Wetlands is composed of representatives of governmental sectors that play essential roles related to water management, national development planning, protected areas policy, biodiversity, fisheries, and education. With scientific representatives, it is also responsible for civil society and a management of RAMSAR sites in the country. RAMSAR recommends that parties designate a technical and scientific principal point and two main points for education and communication, of which one is governmental and other non-governmental. Due to its territorial dimensions and diversity of wetlands, Brazil appointed two technical and scientific representatives: one for the Coastal and Marine Zone and one for inland waters, which tackle wetlands in the Amazon.[154]

4.2.5 Brief discussion

Brazilian legislation fails to adequately enforce its obligations assumed under RAMSAR. It cannot be considered fully compliant with the Convention, nor fully non-compliant. Wetland preservation in Brazil falls under the scope of conservation units and APP, and has been incorporated in many programmes and legislation regarding water resources.[155] However, it is affectedly weakened by

[153] *Brazil has lost 5.2 million hectares of Conservation Units* (IMAZON) < http://imazon.org.br/imprensa/brasil-ja-perdeu-52-milhoes-de-hectares-de-unidades-de-conservacao/?lang=en > accessed 22 November 2015.
[154] Information from the Ministry of Environment website <http://www.mma.gov.br/biodiversidade/biodiversidade-aquatica/zonas-umidas-convencao-de-ramsar/instrumentos-da-conven%C3%A7%C3%A3o-de-ramsar> accessed 20 February 2015.
[155] (n 146) 57.

FC/2012. The protection of wetlands and a balanced environment, as set up by the CF/1988, is not adequately followed under the FC/2012.

4.3 WHC (1972)

4.3.1 Background

The Convention Concerning the Protection of the World Cultural and Natural Heritage (WHC) seeks to protect the cultural and natural heritage of the world. Member states assume responsibility to adopt general policies to conserve their listed natural and cultural heritage of outstanding universal value, safeguarding them as unique irreplaceable properties. The main objective is "to adopt new provisions in the form of a convention establishing an effective system of collective protection of the cultural and natural heritage of outstanding universal value, organized on a permanent basis and in accordance with modern scientific methods."[156]

In Article 2, the WHC defines natural heritage as: "natural features consisting of physical and biological formations or groups of such formations, which are of outstanding value from aesthetic or scientific point of view; geological and physiological formations and precisely delineated areas which constitute the habitat of threatened species of animals and plants of outstanding universal value from the point of view of science or conservation; natural sites or precisely delineated natural areas of outstanding universal value from the point of view of science, conservation or natural beauty." It goes on to define "international protection of the world cultural and natural heritage" as "the establishment of a system of international cooperation and assistance designed to support States Parties to the Convention in their efforts to conserve and identify that heritage."[157]

4.3.2 Principle obligations

Parties to the WHC have the primary right to the use of their cultural and natural heritage of outstanding universal value. Other rights are: participation in elections for the World Heritage Committee, the opportunity to become a Member of the Committee with a right to vote and choose

[156] (n 4) c.f. preamble of the convention. The World Heritage Convention, hereinafter WHC, was adopted with the auspices of the United Nations Educational, Scientific and Cultural Organization (UNESCO) in Paris, France, in November 16,1972. UNESCO appointed the Secretariat of the Convention, according to article 14. An Intergovernmental Committee for the protection of the Convention, denominated "World Heritage Committee" was also established by UNESCO with operational functions, according to set operational guidelines. The Committee is today composed by 21 Member States.

[157] ibid 140.

representatives, requesting a grant for international assistance for operations in a heritage site for the purpose of urgent work due to disasters and calamities and for training staff in the field of identification, protection, conservation, presentation and rehabilitation of the cultural and natural heritage.

The main obligations in respect to the conservation of natural heritage are set forth in Articles 4, 5 and 6 of Section II. Member states recognize their duty to identify, protect, conserve, present and transmit to future generations the cultural and natural heritage defined in Articles 1 and 2, situated in their territories. To ensure effectiveness the parties must adopt general policies aimed at integrating the protection of these sites into comprehensive planning programmes; set up services of protection, conservation and presentation of the cultural and natural heritage with capable staff; develop scientific and technical studies and research and to work out operating methods to fight the dangers that threaten the identified sites; take appropriate legal, scientific, technical, administrative and financial measures necessary for the identification, protection, conservation, presentation and rehabilitation of heritage sites; and must foster the establishment or development of national or regional centres for training in the protection, conservation and presentation of heritage sites and to encourage scientific research in the field. Under the WHC, parties have other obligations in relation to the World Heritage Committee. The must, for example, provide information and documentation about the inventory of the heritage sites and any administrative procedure, studies, system updates and alterations on the sites (Art. 11).

4.3.3 Brazilian legislation

According to Article 3 of the WHC, Brazil[158] identified a natural heritage site in the Amazon area, the "Central Amazon Conservation Complex."[159] In the heart of the Brazilian Amazon, the

[158] Brazil promulgated the WHC by the Decree n. 80.978 of December 12, 1977.

[159] "Complexo de Áreas Protegidas da Amazônia Central" (in Portuguese). The site is part of the World Heritage List since December of 2000. Within the complex, there is the "Parque Nacional do Jaú" (Jaú National Park) with a total area of 5,323,018ha. The World Heritage Committee in the Report WHC.00 /CONF.204 /21, Conference held in Bureau, Cairns, Australia (23/11/2000) decided that: **"**The site protects a large and representative example of the Amazon Central Plain Forest including the entire hydrological basin of the Jaú River. The site is important for biodiversity, protecting a large portion of the biodiversity associated with the Blackwater River system - one of the three types of lymnological systems associated with the Amazon basin. The site has a sufficient size to allow the maintenance of significant on-going ecological and biological processes, such as blow downs, changes in the river flood dynamics and natural burns, thus providing unique opportunities to study their effect on biodiversity in natural ecosystems. The Observer of Brazil informed the Committee that his Government is committed to the protection of the Amazon system." 35. <http://whc.unesco.org/archive/2000/whc-00-conf204-21e.pdf> accessed 20 January 2015. See also WHC Nomination and IUCN Technical Evaluation on Jaú National Park from February 2000. <http://whc.unesco.org/archive/advisory_body_evaluation/998.pdf> accessed 20 January 2015.

complex contains four reserves. The main reserve is the Jaú National Park (Integral Protection Unit), which according to a World Heritage Committee decision[160] that approved its extension, now contains three other protected areas: Amanã Sustainable Development Reserve (Sustainable Use Conservation Unit), the Demonstration area of the Mamirauá Sustainable Development Reserve (Sustainable Use Conservation Unit), and the Anavilhanas Ecological Station (Integral Protection Unit). Together, the four protected areas form the Central Amazon Conservation Complex[161] (total area of 5,232,018 ha) and are part of the World Heritage Forest Programme for protection of forests worldwide.

CF/1988 is explicit in Art. 216, V, and Section 1, concerning the cultural and natural heritage, as follows:

> Art. 216 - Constitute Brazilian cultural heritage assets of material and immaterial nature, taken individually or in set of reference carriers identity, action and memory of the various groups of Brazilian society, in which include:
> V - urban complexes and sites of historical, landscape value, artistic, archaeological, paleontological, ecological and scientific.
> § 1 The government, in collaboration with the community, promote and protect the Brazilian cultural heritage through inventories, records, surveillance, registration and expropriation, and other forms of precaution and preservation."

The primary policy covering a national strategy for areas with international recognition for the establishment of natural heritage sites is the PNAP,[162] which primarily focuses on the SNUC system of Conservation Areas, regulated by Decree n. 4.340/2002. Under SNUC, the Central Amazon Conservation Complex is a Conservation Unit of Integral Protection[163] and of Sustainable Use. For this reason, the conservation units, APP and legal reserves are, in theory, treated in landscape planning within the ecosystem approach with strategic connectivity between natural fragments and their own protected areas, as established by PNAP. Art. 12 and Paragraph 1.[164]

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[160] See further the CoP 27 [2003] Paris, Committee Decision 27COM 8C.10, that approves the extension of the Jaú National Park. 105. <http://whc.unesco.org/archive/2003/whc03-27com-24e.pdf> accessed 20 January 2015.
[161] ibid 105.
[162] (n 143)
[163] (n 115)
[164] (n 117) SNUC "Art. 12. Natural Monument has the basic objective of preserving rare natural sites, natural or of great scenic beauty. §1 The Natural Monument may consist of particular areas, provided it is possible to match the unit's goals with the use of land and natural resources of the site by the owners."

SNUC has provision for natural monuments, allowing them to be part of private properties under the management plan[165] for the area. Therefore, for these areas, a management plan[166] is essential to preserve the biological diversity in a protected area, especially for those species threatened with extinction.

The FC/2012 has general rules over protection of APP[167] and Legal Reserves based on sustainable development. It also states concurrent government obligations, which reflect decentralized environmental management of these areas, as follows: "Art. 1-A, IV - common responsibility of the Federal Government, States, Federal District and municipalities, in collaboration with civil society, in creating policies for the preservation and restoration of native vegetation and its ecological and social functions in urban and rural areas."

4.3.4 Enforcement

The responsible managing agency for the Central Amazon Conservation Complex is the Chico Mendes Institute for Biodiversity Conservation (ICMBio). The ARPA[168] program, works by creating Conservation Units in the Amazon, following part of the SNUC system, under MMA and is financed by the Protected Areas Fund (FAP). Other projects under the National Institute for Space Research (INPE) and IBAMA were developed to oversee the Amazon, such as PRODES, which performs monitoring by satellites detecting deforestation by shallow cut in the Amazon and produces, since 1988, the annual rates of deforestation in the region, which are used by the Brazilian government for the establishment of public policies. Another program, DETER, was developed as an alert system to support surveillance and control of illegal deforestation and forest degradation by IBAMA. DEGRAD is a system to map areas in process of deforestation where forest cover has not been fully removed using a satellite image system and according to the indications of the growth of Amazon forest degradation obtained from the DETER's data. QUEIMADAS was created to monitor and detect forest fires in real time. The TerraClass project qualifies the deforestation of the Amazon region based on the mapped deforested areas, which is then published by the PRODES Project.[169]

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[165] (n 117) SNUC Art. 2, "XVII - management plan: technical document by which, based on the general objectives of a protected area, establishes the zoning and standards that should govern the use of the area and the management of natural resources, including the implementation of physical structures necessary for the management of the unit;"
[166] Art. 27, SNUC, regulated by Decree n. 4.340/2002, from Art. 12 to Art. 16.
[167] (n 144)
[168] (n 115)
[169] INPE Projects < http://www.obt.inpe.br/projetos.htm > accessed 28 November 2015.

Despite of these projects, and other numerous programs to monitor the Amazon, the Management Plans and efforts to protect and preserve the Conservation Units have not been effective. The programmes detect the problems but provide for little to no accountability for those responsible for environmental degradation. Based on a study[170] from1991 to 2006 that evaluated the efficiency of judicial accountability for crimes in federal protected areas, the impunity for environmental crimes in the Amazon is very high and the law has been ineffective in punishing offenders.[171] From the processes analysed, only 14% actually resulted in some type of accountability after a long process that can last more than 5 years from investigation to sentencing. Overall, the main factors for ineffectiveness were found to be: delay in the initiation of the investigation the crimes; delay in completion of police investigations due to accumulation of functions (administrative, legal, investigative and coordination of operations) for the Federal Police, which prevents the rapid determination of crimes; delay in the processing of cases in federal court; disconnect between alternative sentences applied and repairing environmental damage; among others. Lastly, because of the numerous delays, many lawsuits decay, as has occurred in approximately 15% of the evaluated processes.[172] In other words, environmental crimes still pays off because immunity is high. The enforcement of Law n. 9605/1998 (Environmental Crimes Law) is extremely weak and only occasionally meets its objectives.

4.3.5 Brief discussion

Brazil is a state party of the WHC since 1977 and it has only four registered natural Amazonian sites under protection. It has not implemented any specific laws to follow the obligations under the WHC regarding the natural sites in the Amazon. On the contrary, it has capriciously enforced the existing laws to protect the complex sites. Enforcement is deficient and at a snail's pace. Brazil has developed programmes to detect problems in the Amazon but not enough effort to halt these problems.

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[170] *A Impunidade de Crimes Ambientais em Áreas Protegidas Federais na Amazônia* (IMAZON) 13 <http://imazon.org.br/a-impunidade-de-crimes-ambientais-em-areas-protegidas-federais-na-amazonia/> accessed 28 November 2015.

[171] (n 169) 13.

[172] Ibid 13.

4.4 CITES (1973)

4.4.1 Background

CITES[173] is a MEA designed to ensure that international trade in wild animals and plants will not endanger their existence. The objective is to regulate international trade, establishing a legal framework with common procedural mechanisms for all its signatories for the prevention of international commercial trade in endangered species and for an effective regulation of trade in other species. CITES is one of the most important environmental agreements in preserving species, with most of the world's countries as signatories. CITES regulates the export, import and re-export of animals and plants, parts and derivatives, through a licensing system providing certificates that are issued when certain requirements are met.[174] It provides for sustainable development through the control of trade, sustainable use and protection of biodiversity. The administrative organisation of CITES is composed, firstly, by the Secretariat in Geneva, administered by UNEP. Its main function is to supervise the permit system at the international level. For this reason, member states are required to meet regularly and review implementation of CITES, making appropriate recommendations to improve effectiveness.[175] Secondly, the CoP is the supreme decision making body for CITES and consists of all its member states.[176] Thirdly, the Standing Committee and certain other permanent committees act as a compliance committee by tackling the monitoring and assessment of compliance issues such as the verification of information and advising the parties on compliance issues. In the domestic sphere, national management and scientific authorities complete the administrative structure to enforce CITES.

4.4.2 Principle obligations

Commercial trade of the species identified by CITES is only possible with proper regulation and authorization. A study of impact on the population of species must be carried out to prevent the ecological balance to be negatively affected, as well as risk of extinction and restrictions on ecological functions. The designations given in CITES requiring no harmful extraction of species and an impact assessment of the populations are essential for the sustainable use of the resource.

Along with the right to trade and exploit its natural resources, CITES establishes certain rights of member states. They may review the implementation and participate actively in

[173] (n 2)
[174] CITES Secretariat, "How CITES work?" <http://www.cites.org/eng/disc/how.php > accessed 20 February 2015.
[175] *Bowman* (n 66) 488.
[176] (n 174)

administrative decisions within the meetings discussions, adopting financial provisions and helping the Secretariat to carry out its duties (Art. XI). Article XIV also requires members to adopt domestic measures to enforce and protect wild life according to rules set by the CITES. Members may also propose amendments to the appendices of CITES under Articles XV and XVI. According to Art. XIV, the parties have the right to adopt strict domestic measures regarding the permission or prohibition of trade conditions, taking, possessing or transporting specimens included or not in Appendices I, II and III.[177] National legislation must designate a management authority and a scientific authority for prohibiting specimen's trade, allowing for confiscation of specimens illegally traded or possessed and penalizing violations to CITES.[178] Article VIII sets up important obligations by the parties regarding taking appropriate procedures to enforce the provisions and prohibit its violations, providing confiscation or return of apprehended specimens and to penalize such violations of CITES. The parties shall ensure that specimens will pass through any formalities with a minimum of delay while also ensuring that live specimens must be carefully taken care of to minimize risks of injury, damage to health or cruel treatment (Para. 3). The management authority must keep the confiscated specimens until consultation as to returning it to the state to which it belongs. It may also obtain advice from the scientific authority. The parties shall also maintain records of trade and prepare periodic reports regarding implementation of the Convention (Paras. 6 and 7).

4.4.3 Brazilian legislation

Brazil signed CITES in 1973 and ratified it in 1975. Decree n. 76.623/1975 issued the CITES text, which was approved by Legislative Decree n. 54/1975. The implementation of CITES provisions in the country occurred through Decree 3.607 of September 2000, which, amongst other measures, appointed IBAMA as the managing authority and tasked it with issuing licenses for the international trade of the species listed in the annexes. IBAMA also issues the annual and biennial reports on trade and communicates with other CITES agencies.

CITES is particularly significant for the Brazilian Amazon due to the protection it affords the Amazon's rich natural resources. Implementation is problematic in the enormously unequal

[177] (n 171) Appendix I lists species threatened with extinction where trade is authorized only in special circumstances provided by Art. III. Appendix II lists species which are not essentially threatened with extinction, but where trade must be controlled to avoid utilization incompatible with their survival. Appendix III provides a list of species which are protected in at least one country and which has asked other CITES State Member to assist in controlling the trade.
[178] (n 2) art IX.

economic and social context of the nine states of the Amazon. Since the 1970's, the lack of implementation was influenced by the military regime that only favoured the development of the country while disregarding the environment. The Forestry Code of 1965 and the Hunting and Fishing Code of 1967 were in force then and seemed to be enough to follow the treaty obligations. Today, the Hunting and Fishing Code of 1967 is still in force as the main fauna protection law and the new FC/2012 as the main forestry protection law. Both are not enough to safeguard the forests and wild life of the Amazon.

CF/1988, in Articles 23 and 225, stipulates fauna and flora protection, as follows:

> Art. 23. It is common responsibility of the Union, States, Federal District and Municipalities: VII - to preserve the forests, fauna and flora;
> Art. 225.[179] § 1 To ensure the effectiveness of this right, it is incumbent upon the Government: VII - to protect the fauna and flora, prohibited, according to the law, practices that endanger their ecological function, cause the extinction of species or subject animals to cruelty.

A legislative milestone in Brazilian environmental law occurred with the creation of the Environmental Crimes Law n. 9.605/1998 and its regulation, Decree 6.514/2008. According to these laws, killing, hunting, catching or using species of wildlife without permission, license or authorization of the competent authority, or in violation of the obtained license is considered a criminal offense based on Appendices I and II from CITES. Criminal and administrative penalties are established by Law n. 6.938/1981 (PNMA) in accordance with Decree n. 3179/1999.

The Environmental Crimes Law is incongruent regarding the punishment of offenders in that the existing provisions do not seem to be appropriate to the gravity of the offense. For instance, abuse and mistreatment of animals – a practice that leads to the death of animals and the main leading cause to their extinction – is punishable by detention from 3 months to 1 year and a fine. It is considered a crime of lesser offense. Therefore, according to Art. 28,[180] it is judged by Article 89 of the Law n. 9.099/1995 as allowable to have the process suspended, as follows:

> Art. 32. Practicing act of abuse, mistreatment, injure or mutilate wild, domestic or domesticated, native or exotic animals: Penalty - detention of three months to one year and fine.

[179] (n 87)
[180] Environmental Crimes Law n. 9.605/1998, "Art. 28. The provisions of Art. 89 of Law n. 9.099/1995, apply to crimes of lesser offensive potential defined by this Law."

§ 1. The same penalties for persons who perform painful or cruel experiments on live animals, even for educational or scientific purposes, when there are alternative resources.
§ 2. The penalty is increased by one sixth to one third, if occurs the death of the animal.

Law n. 9099/1995, Art. 89. In crimes where the minimum penalty is equal to or less than one year, covered or not covered by this Act, the Public Ministry, may offer the complaint the suspension of proceedings for two to four years, if the accused is not being processed or has not been convicted of another crime, present other requirements that would authorize the probation (Art. 77 of the Criminal Code).

The incongruities in the Environmental Crimes Law start with the possibility of cases being brought in small claims courts (Law n. 9.099/1995), which is competent for conciliation, prosecution and trial of criminal and civil suits of lesser complexity. This does not reflect the seriousness of environmental crimes. The legislature does not consider environmental crimes to be important as is shown by applying inadequate penalties and prosecution. Instead of custodial sentences, it applies alternatives and restrictive rights penalties, instituted by the afore-mentioned procedural authority. This does not reflect an appropriate punishment system, and not even an effective method to raise awareness of the reality and severity of environmental damage. This implies ineffectiveness of the law and consequent non-compliance with CITES, increasing the possibility of repeat offenses.

Legislative inconsistency continues with CONAMA Resolution 457/2013, known as the Animal Watch Term - Resolution for Temporary Granting of Seized Wildlife Rescued by Environmental Agencies, or Arising out of Spontaneous Delivery. The resolution increases the amount of the traffic of animals and gives amnesty to environmental criminals. It allows individuals across the country to have temporary custody of up to 10 wild animals, since the Wild Animal Screening Centres (CETAS) and IBAMA are unable to take care of the detained animals. Under Article 5 of the resolution, invasive species are not allowed to be listed on the official lists of endangered Brazilian fauna, namely that which was contained in the national or state lists, or under the species described in Annex I of CITES, except if IBAMA has previously authorized this.[181]

[181] The Ministry of Environment rushed to defend the minister, stating that CONAMA is a "collegiate body and although it is chaired by the Minister of the Environment, Izabella Teixeira, its resolutions require approval by a majority vote of the members. Of the 90 entities present for the vote of Resolution n. 457, only one was against."

4.4.3.1 Flora Legislation

FC/2012 is the latest act regarding flora protection in Brazil. To adapt to CITES, the new FC/2012 brought in Arts. 35 and 36 stating that "the control of the origin of wood, coal and other products or forest by-products includes a national system that integrates data from different entities federal, coordinated, supervised and regulated by the competent federal organ SISNAMA" and that "the transportation, by any means, and wood storage, firewood, coal and other forest products or by-products from forests of native species, for commercial or industrial purposes, require license from the relevant bodies of SISNAMA."

IBAMA issued numerous instruction and normative acts to improve and systematize procedures for the control and operation, collection, transport, commercialization, industrialization, marketing, export and use of forest products and by-products. However, the supervision, control and monitoring of these activities are threatened by the ineffective operation of the organization as it does not have enough available man power to oversee these activities,[182] especially in remote areas of the Amazon.

4.4.3.2 Fauna Legislation

Law n. 5.197/1967 was the first, and still is the only, law in force regarding protection of wildlife in Brazil. It made hunting and maintaining certain animals in captivity illegal. Violators are subject to penalties in force by the Environmental Crimes Law. It was altered by Law n. 7.653/1988 to change some articles regarding acts against fauna, in which illegal contraventions have become non-bailable crimes. As the main law did not decriminalized subsistence hunting, the prosecution of major dealers is hampered and punishment may be prevented.

4.4.4 Enforcement

Decree 3.607 of September 2000, amongst other measures, appointed IBAMA as the Managing Authority and the Scientific Authority, together with ICMBio and the Botanical Garden in Rio de Janeiro, responsible for reporting on species listed in Annexes I and II of CITES, proving that the export is not detrimental to the survival of the species in nature. The administrative authority then uses these reports when issuing licenses. Currently, the role of the administrative authority is under the responsibility of the Directorate of Sustainable Use of Biodiversity and Forests (DBFLO). Normative Instruction n. 140/2006 establishes the request service and publishing of IBAMA

[182] (n 187)

licenses for import, export and re-export of specimens, products and by-products of fauna and Brazilian wild flora and exotic fauna and flora, listed or not in the annexes of the CITES.[183]

Illegal trafficking of wildlife[184] in the Amazon is a major environmental concern, creating billions of reais in profit and it is the third main trafficking, after weapons and drugs, in Brazil. Birds comprise 80% of animal species trafficked by smuggling networks.[185] It involves poor populations and even indigenous people who capture the animals in exchange for money or food.[186] According to IBAMA, there is a high demand for wildlife not only internationally, but nationally as well. The organization is not equipped to stop the trafficking. For instance, in 2014, IBAMA had only 47 environmental agents to monitor illegal trafficking in the state of Amazonas.[187] Thus, even with the help of Federal Police, it is almost impossible for IBAMA to end illegal trafficking of wildlife in the Amazon.

Illegal logging is also a prime concern that IBAMA alone is unable to end. The projects developed by the government to detect wild fire, forest degradation and deforestation via satellite[188] help identify these areas, but local action is still a challenge, since there are not adequate structures to combat these crimes. Monitoring via satellite is starting to show results, but local action remains problematic. The Brazilian Government, through IBAMA,[189] has incorporated CITES provisions into its procedures for evaluation and issuance of licenses for import and export of forest products. For instance, it is common for illegal logging production to produce fake environmental licences or use valid licences to cover illegal activities, an issue that requires investigation and often goes unpunished. Even with an advance public online monitoring system of licence emission, fraud still occurs.

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[183] IBAMA "CITES" <http://www.ibama.gov.br/servicos/cites > accessed 20 February 2015.

[184] National Network for Combating Wild Animal Trafficking (RENCTAS) < http://www.renctas.org.br/wp-content/uploads/2014/02/NORTE.pdf> accessed 27 November 2015.

[185] RENCTAS http://www.renctas.org.br/trafico-de-aves-corresponde-a-80-das-especies-de-animais-contrabandeados-no-brasil/ accessed 27 November 2015.

[186] "1º Relatório Nacional sobre o Tráfico de Fauna Silvestre" (RENCTAS) 28 http://www.renctas.org.br/wp-content/uploads/2014/02/REL_RENCTAS_pt_final.pdf accessed 27 November 2015.

[187] G1 website <http://g1.globo.com/am/amazonas/noticia/2014/07/ibama-tem-apenas-47-servidores-para-fiscalizar-crimes-ambientais-no-am.html> accessed 27 November 2015.

[188] (n 169)

[189] IBAMA has also created other services and systems to oversee the implementation of CITES, as Amateur Creation of Passerine the Brazilian Wildlife (Criação Amadora de Passeriformes da Fauna Silvestre Brasileira - SisPass); Fauna Enterprises authorization Silvestre (Autorização de Empreendimentos de Fauna Silvestre - SisFauna); Export / Import Fauna, Parts & Products or Biological Material (Exportação/ Importação de Fauna, Partes & Produtos ou Material Biológico - SisCITES); Amateur Creation of Exotic Fauna Program; Management and Boar Control Program; and Amazon Turtles Program. < http://www.ibama.gov.br/fauna-silvestre/fauna-silvestre > accessed 18 March 2015.

Trade regulation of fauna and flora is also an issue. It is limited to technical extension and location of the IBAMA Specialized Units that sometimes do not have all the scientific knowledge, or do not reach the relevant location for monitoring and research.[190] In the Brazilian context, fauna trade shows the need for regulation and incentives for the implementation of specialized breeding sites. Regarding flora, it is necessary to regulate companies' activities, with attention to existing internal legal restrictions. Also, there are important instruments to be implemented and improved regarding the regulation of commerce, environmental education, supervision, punishment, and regulations as to the destination of apprehended resources.

4.4.5 Brief discussion

The Brazilian structure to implement CITES is still deficient. Even the numerous pieces of legislation from all spheres of power, issued to specifically tackle the problems and enforce CITES's obligations, are not enough to solve the problems, as the demand to import natural resources is so high in the Brazilian Amazon due to its rich biodiversity. The penalization of crimes committed against the environment rarely occurs. When procedures reach the stage of sentencing, the penalties do not sufficiently correspond to the gravity of the crime. The penalties are not sufficient to raise awareness and do not seem punitive enough to avoid recurrence. In fact, many court proceedings are cancelled or annulled due to administrative errors, punitive prescription of the crime or other procedural incidents which invalidate the process and the crime goes unpunished. Also, there is a lack of environmental education to modify human behaviour, so that people themselves will lobby for accountability.

4.5 TAC (1978)

4.5.1 Background

The Treaty for Amazonian Cooperation (TAC)[191] is a multilateral regional treaty amid the South American countries of Brazil, Bolivia, Colombia, Ecuador, Guiana, Peru, Suriname and Venezuela, which share the Amazon territory. The objective of TAC as a cooperation treaty is to promote the

[190] Gabriela Garcia Batista Lima "A situação da Convenção sobre o Comércio Internacional das Espécies da Flora e Fauna Selvagens em erigo de extinção – CITES – no Brasil: análise empírica." 106 http://publicacoesacademicas.uniceub.br/index.php/prisma/article/viewFile/364/473 accessed 18 March 2015.

[191] (n 5) Approved by Brazilian Congress by Decree Law n. 69 of 18 October 1978, promulgated by the Decree 85.050/1980. The Treaty of Amazon Cooperation was concluded in Brasilia on July 3, 1978, entered into force on August 2, 1980.

harmonious development of the Amazon, permitting equitable distribution of the benefits of development between the contracting parties, to achieve the preservation of the environment through conservation and national utilization of the natural resources, to raise the standard of living of their peoples and achieve the full incorporation of their Amazonian territories into their national economies.[192] Twenty years after the establishment of TAC, the countries signed the Protocol of Amendment to the TAC, creating ACTO – Amazon Cooperation Treaty Organization, an international organization with a permanent secretariat and its own budget, for optimizing the implementation of the Treaty purposes. In December 2002, the first and only Amendment to the treaty, was signed at the Presidential Palace, the Headquarters Agreement between the Government of Brazil and the ACTO, which has established the Permanent Secretariat in Brasília, the only multilateral international organization based in Brazil.[193]

According to article XX, the Ministers of Foreign Affairs of the Member States shall meet every two years and evaluate the development of the Amazonian cooperation and take decisions for this aim. The Meeting of Ministers of Foreign Affairs is the highest deliberative body of the Organization, responsible for establishing the basic guidelines for common policies, evaluate initiatives and make decisions needed to achieve the proposed goals. The Amazon Cooperation Council (CCA), composed of high-level diplomatic representatives of member countries, must ensure compliance with the objectives of the Treaty and the decisions adopted by the Ministers of Foreign Affairs. The CCA is assisted by the Coordination Committee of the Amazon Cooperation Council (CCOOR) advisory body.[194] The treaty also stimulates environmental bilateral agreements between the Parties in cooperation for borders areas, in order to establish instruments for the implementation of action borders and form the basis for conducting integrated binational studies.

4.5.2 Principle obligations

The principle right of the Parties is to exclusively use and utilize the Amazon region in their country, reflecting the international law principle of sovereignty over natural resources. This exclusive right established in article IV is inherent in the sovereignty of each state and the exercise of this right shall not be subject to any restrictions other than those arising from International Law.

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[192] (n 5) art 1

[193] Ministry of International Relations of Brazil <http://www.itamaraty.gov.br/index.php?option=com_content&view=article&id=691:organizacao-do-tratado-de-cooperacao-amazonica-otca&catid=146&Itemid=434&lang=pt-BR > accessed 18 March 2015

[194] (n 168)

The treaty also follows the principles of preservation of the environment and sustainable development. Consequently, TAC establishes the following main duties to its Member States: to promote the harmonious development of their respective Amazonian territories, preservation of the environment and the conservation and rational use of natural resources thereof (art. I); to ensure each other on a reciprocal basis, the most complete freedom of commercial navigation on the Amazon and other international Amazonian rivers, observing the tax and police regulations established in the territory of each of them (art. III); to promote scientific research and information exchange of technical personnel between the competent authorities of the respective countries in order to broaden the knowledge of the flora and fauna of their Amazon territories and prevent and control disease in these territories (art. VII (a)); to establish a regular system for the proper exchange of information on conservation measures that each state has adopted or adopt in their Amazonian territories, which will be subject to an annual report by each country (art. VII (b)).[195]

TAC is a normative framework[196] with general guidelines that didn't evolved through time, which prevent it from reaching its objectives, its main weakness. The only amendment of TAC just replaced the *Pro Tempore* Secretariat with the Permanent Secretariat.[197] The Resolutions from the Ministers of Foreign Affairs introduced new concepts and principles for biodiversity conservation and forests, bringing precision to specific tasks, but overall, the treaty has not developed specific obligations. The treaty is silent in relation to forests, but an attempt came with the Amazon Charter initiative, which also failed to entail substantive obligations.[198] Article VII, provides protection to the flora and fauna of the Member States, but this protection comes as soft law, once there are no sanctions to those who violate them.

4.5.3 Brazilian legislation

In Brazil, no specific law was created in respect to the TAC commitments. Nonetheless, forest managements were introduced by the Public Forest Management Law n. 11.284/2006, which provides for the management of public forests for sustainable production with an option of forest concession. The law also established the Brazilian Forest Service (SFB), within the structure of the MMA, and created the National Fund for Forest Development (FNDF). It was also created in 2004,

[195] (n 5)
[196] Tarcísio Humberto Parreiras Henriques Filho *Política nacional do meio ambiente: 25 anos da Lei* (6 ed. Editora Del Rey 2007) 43-44.
[197] This became a problem as the Meetings of the Ministers of Foreign Affairs did not happen in a continuous way, which affected the adoption of norms and policies to be negotiated in the framework, once they were postponed.
[198] Beatriz Garcia. *The Amazon from an International Law Perspective* (Cambridge Press 2011) 124.

the Plan of Action for the Prevention and Control of Deforestation in the Legal Amazon (PPCDAM), as a strategy to contain deforestation in the Amazon. Furthermore, in respect of biological targets, the treaty follows the developments of the world scenery, as of other major treaties and its objectives, like the Millennium Declaration and Agenda 21, regarding to sustainable development goals.[199] ACTO Members, after the 'Amazonian Strategic Cooperation Agenda' from 2010,[200] developed projects to monitor Amazonian deforestation, amongst other issues. From the period of 2011-2014, also part of the Strategic Agenda, the main achievements were listed, but no specific domestic progress was published as no reports were provided.[201]

According to the "Tarapoto Proposal of Criteria and Indicators for Sustainability of the Amazon Forest"[202] within the framework of the Strategic Plan (2004-2012)[203] implemented by ACTO, the Brazilian Amazon, through the national Project TCP/RLA/3007 (A) "Validation of 15 Prioritised Indicators of Sustainability of Amazon Forest", showed in the final report from 2006 that Brazil has overall advanced towards sustainable development in the region. The report considered "indicators based on existing policies and legal framework, as well as some of the quantitative indicators under validation. There are legal regulations for the Ecological Economic Zoning (EEZ),[204] Forest Management Plans, measures for biodiversity conservation, watercourses protection form impacts caused by logging, and cultural protection of indigenous and local people".[205]

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[199] Base Juridica del Tratado de Cooperation Amazonica [2003-2012]. 42 http://otca.info/portal/admin/_upload/base_juridica/368-Ingles.BJ.pdf accessed 20 March 2015.

[200] ACTO *Monitoring Deforestation, Logging and Land Use Change in the Pan Amazonian Forest* <http://www.otca.org.br/portal/admin/_upload/publicacoes/folder_monitoreo_ing.pdf > accessed 20 March 2015.

[201] ACTO *Monitoring Forest Cover in the Amazon Region*. November 2014. 2. <http://www.otca.info/portal/admin/_upload/publicacoes/482-Monitoring.pdf> accessed 20 March 2015.

[202] TAC, 1995. *Proposal of Criteria and indicators for sustainability of the Amazon Forest*. Pro Tempore Secretariat, Lima, Peru. http://www.fao.org/docrep/004/ac135e/ac135e0a.htm accessed 18 March 2015.

[203] ACTO Strategic Plan (2004-2012) 24. http://iwlearn.net/iw-projects/2364/reports/sap-document accessed 18 March 2015.

[204] FAO/TCP/RLA 3007. 28. EEZ is defined as a land management tool that establishes, in the implementation of public and private plans and projects, guidelines for the environmental protection and spatial distribution of economic activities, to ensure that the development is sustainable. <http://www.mma.gov.br/estruturas/pnf/_arquivos/indic_tarapoto.pdf> accessed 18 March 2015. 28.

[205] (n 199) Project FAO/TCP/RLA 3007. 89 < http://www.mma.gov.br/estruturas/pnf/_arquivos/indic_tarapoto.pdf > accessed 18 March 2015.

4.5.4 Enforcement

Domestic enforcement has been problematic in Brazil, since the legal framework of TAC is weak, only imposing a general duty to cooperate internationally. Despite the unclear legal obligations, and complementing the PPCDAM plan, Brazilian government created in 2008 the Sustainable Amazon Plan (PAS), whose main objective is to introduce a new model for exploiting the Amazon, based on the sustainable use of natural resources. It duplicates what was established at PPCDAM, *e.g.*, as to improve the national system of protected areas. Among these projects, Brazil has also developed the above mentioned projects to detect deforestation, forest fires and forest degradation.[206]

In respect to compliance with treaty obligations, the executive organs Permanent National Commissions (PNCs) and Special Commissions (SCs), responsible for ensuring compliance, have not been operative or have functioned on a very limited scale. This also contributes with the weaknesses of the treaty to achieve its objectives. For instance, in Brazil, "National Standing Committee on the Amazon Cooperation Treaty" was created by Decree (no number) of November 8th, 2002, under the Ministry of Development, Industry and Foreign Trade, with the objective of coordinate activities related to implementation in the country.[207] However, in so far, no progress has been found in relation to the functions of the Commission and no activities have been reported or published.

4.5.5 Brief discussion

TAC is a limited treaty and it has been progressing in slow pace due to its normative deficiencies. It works as a regional cooperation agreement, but with legal and institutional weakness. The treaty lacks specific obligations, as for example, art. VII (b) does not establishes sanctions for non-compliance in case the Parties don't submit reports in relation to fauna and flora conservation measures, and reports were never submitted. ACTO was created to help structure and facilitate the meetings of the Parties in order to resolve the challenges faced in the Amazon, but compliance has been unclear, especially in Brazil. The Member States are only eager to defend their sovereignty over their Amazonian territory. But then again, despite the institutional weaknesses, the Parties have invested in mutual cooperation to achieve the treaty goals, but with several challenges still to

[206] (n 169)

[207] Ministry of Development, Industry and Foreign Trade <http://www.mdic.gov.br/sitio/interna/interna.php?area=1&menu=797&refr=482 > accessed 18 March 2015.

face, *e.g.,* domestic enforcement. Nonetheless, there were improvements to be noted in the Brazilian Amazon, as the application of the fifteen indicators of Tarapoto Process, like the setting up of EEZ,[208] the significant increase of Protected Areas in the Conservation Units, and the creation of the a Permanent National Commission, which is still inactive, amongst others. Only the future will show if there will be improvements in achieving the treaty's goals.

4.6 CBD (1992)

4.6.1 Background

Originated from the Rio Conference of 1992, the CBD provides a global legal framework for action on biodiversity. It has three main objectives described in article 1: a) Conservation of biological diversity (also in arts. 6-9, 11 and 14); b) Sustainable use of its components (also in arts. 6, 10 and 14); and c) Fair and equitable sharing of the benefits arising out of the utilisation of genetic resources, including by appropriate access to genetic resources, transfer of relevant technologies, taking into account all rights over those resources and funding (also in arts. 15, 20-21).[209] The Convention's governing body is the CoP, established by Article 23, and it brings together the Parties every two years, or as needed, to review progress in the implementation of the Convention, to adopt programmes of work, to achieve its objectives, and provide policy guidance.[210] Article 24 establishes the Secretariat with a significant role to support implementation and goals of CBD. Institutionally associated to UNEP, the Secretariat is a neutral organization accountable to the CoP and its subsidiary bodies, carrying out tasks under its associated mandate.[211]

CBD is the first international treaty to clearly focus on all aspects of biodiversity. According to article 2, it extends from conservation of biodiversity and sustainable use of biological resources to access to biotechnology and the safety of activities related to modified living organisms. It has a framework characteristic as it does not start from zero, but it seeks to fill the biodiversity provision gaps left by other conservation treaties. It also 'lays down various guiding principles at the international level which states parties are required to take into account in developing national

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[208] (n 201) 28.
[209] (n 6) art 1.
[210] Convention Bodies 'Introduction' 'The COP is assisted by the Subsidiary Body on Scientific, Technical, and Technological Advice (SBSTTA), responsible for providing recommendations to the COP on the technical aspects of the implementation of the Convention.' CoP has the assistance of other Working Groups, see further: <http://www.cbd.int/convention/bodies/intro.shtml> accessed 28 March 2015.
[211] CBD Secretariat 'Role'. Secretariat is located in Montreal, Canada, since 1996. <http://www.cbd.int/secretariat/role.shtml> accessed 28 March 2015.

law and policy to implement its objectives, but to which can also be added subsequent *ad hoc* protocols on related issues'[212] indicated in Article 28.

Important concepts related to nature conservation were brought in Article 2, as biological diversity, or biodiversity, which is defined as the "variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems". Ecosystem is defined as "a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit". The term biological resource is also defined as including "genetic resources, organisms or parts thereof, populations, or any other biotic component of ecosystems with actual or potential use or value for humanity". The term 'natural resources' has no agreed definition, but it can be understood by means of the definition of biological resources, as the living and non-living resources which can be exploited and have economic value.

CBD is guided by the ecosystem approach,[213] adopted as a framework by the CoP II in 1995,[214] and as one of eighteen divided issues identified under the Convention. Describing the operational guidance of the approach and its twelve principles,[215] the CoP V Decision V/6 in 2000,[216] carefully explains the requirements to integrate these principles within national plans and priorities. Implementation strategies of each principle were adopted at CoP VII/11,[217] Annex I and the ecosystem approach sourcebook. The objective and application of the ecosystem approach is

[212] *Birnie* (n 91) 616.

[213] Convention on Biological Diversity 'Background' and 'Description' Ecosystem Approach is defined by Decision V/10, Annex A, paragraph 1 as 'The ecosystem approach is a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way. Thus, the application of the ecosystem approach will help to reach a balance of the three objectives of the Convention: conservation; sustainable use; and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources'. 'The ecosystem approach requires adaptive management to deal with the complex and dynamic nature of ecosystems and the absence of complete knowledge or understanding of their functioning. Ecosystem processes are often non-linear, and the outcome of such processes often shows time lags. The result is discontinuities, leading to surprise and uncertainty. Management must be adaptive in order to be able to respond to such uncertainties and contain elements of 'learning by doing' or research feedback. Measures may need to be taken even when some cause-and-effect relationships are not yet fully established scientifically.' <http://www.cbd.int/ecosystem/background.shtml and <http://www.cbd.int/ecosystem/description.shtml> accessed 30 March 2015

[214] CoP 2 Jakarta, Indonesia, 6 - 17 November 1995.

[215] Convention on Biological Diversity 'Principles' http://www.cbd.int/ecosystem/principles.shtml accessed 30 March 2015.

[216] CoP 5 Nairobi, Kenya, 15 - 26 May 2000 Decision V/5

[217] CoP 7 Kuala Lumpur, Malaysia, 9 - 20 February 2004. Decision VII/11. Ecosystem approach.

to help reach a balance between the CBD objectives. "Sustainable use" is defined in article 2,[218] as essential for the survival of species and also beneficial to humankind, in particular people dependent on biological resources for their subsistence. The Addis Ababa Principles and Guidelines for the Sustainable Use of Biodiversity, came to realistically assist Governments, other public and private entities and local communities to ensure sustainability of the use of components of biodiversity that will not lead to a long-term deterioration of biological diversity.[219] Accordingly, the main right recognized by CBD is that States have sovereignty rights over their natural resources, as to exploit it pursuant their own environmental policies (provisions of preamble, Articles 3 and 15), with the responsibility of acting sustainably. The Brazilian National Biodiversity Strategies and Action Plans (NBSAPs)[220] shows national targets according to the Aichi Biodiversity Targets and the principal instruments for implementing the Convention on national level, and Brazil has submitted five reports and other separated documents informing strategies for implementation and compliance[221].

4.6.2 Principle obligations

CBD is clear about States duties, as they resume to: Cooperate with other Parties, by competent international organizations, in respect of areas beyond national jurisdiction and other matters of mutual interest, for the conservation and sustainable use of diversity (art. 5); According to its own conditions and capabilities: a) develop strategies, plans or programs for the conservation and sustainable use of biological diversity or adapt for this purpose strategies, plans or programs which shall reflect, inter alia, the measures set forth in the Convention concerning the Party concerned; and b) integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into plans, programs and sectoral and intersectoral relevant policies (art. 6); Adopt measures: identification and monitoring (art. 7); *in situ* conservation; of *ex situ* conservation (arts. 8 and 9); sustainable use of components of biological diversity (art. 10); incentives (art. 11); research and training (art. 12); education and public awareness (art. 13); impact assessment and minimization of negative impacts (art. 14); access to genetic resources (art. 15); access to

[218] CBD Article 2: "Sustainable use" means the use of components of biological diversity in a way at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations."
[219] CoP 7 Kuala Lumpur, Malaysia, 9 - 20 February 2004. Decision VII/12 'Sustainable use of biodiversity: Addis Ababa Principles and Guidelines'. https://www.cbd.int/doc/publications/addis-gdl-en.pdf accessed 30 March 2015.
[220] Brazil – national targets to the Aichi Biodiversity Targets https://www.cbd.int/countries/targets/?country=br accessed 24 April 2015.
[221] Brazil Fifth National Report to the CBD https://www.cbd.int/doc/world/br/br-nr-05-en.pdf accessed 24 April 2015.

technology and technology transfer (art. 16); information exchange (art. 17); technical and scientific cooperation (art. 18); management of biotechnology and distribution of its benefits (art. 19); financial support and incentives for national activities intended to achieve the objectives of the Convention (art. 20).

4.6.3 Brazilian legislation

Brazil adhered to the Convention in 1992 and ratified it on 3 February 1994, by the Legislative Decree n. 2/1994, and CBD was promulgated by the Decree n. 2.519/1998. In the national range, the protection of biodiversity is powerful support in CF/1988, in his art. 225. This protection is set in chapter VIII "Social Order", being part of the fundamental rights and unquestionable duties of Brazilian society, the foundation of the National Biodiversity Policy. Biodiversity is safeguarded sparsely through the protection of flora (FC/2012), fauna (Law n. 5.197/1967), cetaceans (Law n. 7.643/1987), the Nature Conservation Units (SNUC Law n. 9985/2000),[222] among others not related to the Amazon, but to other specific ecosystems.

In the year 2002, the Presidential Decree n. 4.339 came to establish principles and guidelines for the implementation of the National Biodiversity Policy. But to implement which law? The National Biodiversity Policy was never established, since the above mentioned laws of FC/2012 and SNUC law only addressed the issue partially. So, the Decree implement or is it the National Policy? But according to Brazilian Law, a National Policy can only be established by law, being voted at the National Congress and not simply instituted by the President of Brazil through a decree. It would contribute to the imbalance in the functions of the three powers defined in art. 2 of the CF/1988. Nonetheless, the Decree addresses with more detail the issues of biodiversity, but as a pragmatic document, it leaves gaps, as regarding scientific creation, technical applications, cultural actions and economic utilization.

Twenty three years after the Rio 1992, a new Biodiversity Law n.13.123 of May 20, 2015, came to "provide for access to genetic resources, the protection and access to associated traditional knowledge and the sharing of benefits for conservation and sustainable use of biodiversity"[223] in conformity with art. 8 'j' CBD. The new law, came to regulate the access to genetic material and genetic resources, but it demonstrates lack of commitment of the Brazilian Government to protect

[222] (n 117)
[223] Brazilian Ordinary Law n. 13.123 of May 20, 2015, came into force in 16 November 2015.

the environment, as the Congress approved rules for commercial use of the Brazilian biodiversity that only benefit the interests of industries and agribusiness, remaining business as usual.

For instance, the new Biodiversity law modified the form of request authorization to explore biodiversity, by simplifying it to a mere registration over the Internet, not necessary the approval of the Genetic Heritage Management (CGen) anymore. The problem of stipulating a maximum amount to be paid for selling natural resources (at a fairly low percentage),[224] instead of a minimum. The money will be allocated to the National Fund for Benefit Sharing (FNRB) (art. 30). But, the benefit sharing will focus only on products that appear in a list prepared by indicated ministries, and it will be easier for companies to solicit over the formulation of such lists and change restrictions. Another issue in reality is that micro-enterprises, small businesses, individual micro-entrepreneurs and agricultural cooperatives are exempt from paying for the economic exploitation of the genetic heritage of species found in Brazil (art. 17, §5).

Nevertheless, the major absurdity of the law is regarding fines and convictions that have been applied to biopiracy crimes. Following the previous Provisional Measure n.2.186-16, of August 23, 2001, and specified in arts. 15 and 20 from Decree n. 5.459 of June 7, 2005 (both previous biodiversity acts) – all enforceability of administrative sanctions and penalties are extinguished – as the provided offense has been committed until the day before the entry into force of the new Law 13.123/2015, being necessary only to sign Commitment Term with the MMA (Art. 38, IV, § 3). The amount of other penalties applied, according to article 41, § 3, will be reduced in ninety percent. In other words, up until late November of 2015, crimes against the biodiversity will not be penalised.

4.6.3.1 Cartagena and Nagoya Protocols

The Cartagena Protocol is applied in Brazil[225] through the Decree n. 5.705/2006 and preceding it, is the law n.11.105/2005,[226] called Biosafety Law, both acts in force. The Brazilian Constitution in article 225, §1, II and V, states that: "§ 1 - To ensure the effectiveness of this right, it is for the

[224] Law 13.123/2015, Arts. 20 and 21: If a product was created from existing materials in the Brazilian biodiversity, the company will have to pass 0.1% to 1% of annual net revenue from economic exploitation, like a *royalty*.

[225] The Cartagena Protocol was promulgated by the President of Brazil through the Decree n. 5.705 from February 16, 2006 and entered into force on the same date.

[226] The Biosafety Law establishes safety standards and activities of oversight mechanisms involving genetically modified organisms - GMOs and their derivatives, and it also creates the National Biosafety Council - CNBS, restructures the National Biosafety Technical Commission – CTNBio and provides for the National Biosafety Policy – PNB.

Government to: II - preserve the diversity and integrity of the genetic patrimony of the country and to control entities engaged in research and manipulation of genetic material; V - control the production, sale and use of techniques, methods or substances which represent a risk to life, the quality of life and the environment;". The law n.11.105/2005 regulates the national biosafety and it restructured the CTNBio – National Biosafety Technical Commission, but despite some changes from previous regiments, it still lacks the elaboration of a Code of Ethics on Genetic Manipulation, an absolute important issue for an effective policy on biosafety.

Brazil is a non-party of the Nagoya Protocol. Arguments linked to agriculture are being used to block the ratification of the Protocol in the country. In June 2012, the document was sent by the President to Congress, but because the points considered controversial by the ruralists, little has happened since then. The argument against the protocol is that it would harm the agricultural sector, because almost all the plants and animals of interest of Brazilian agriculture, especially for export, such as soybeans and cattle, are from other countries, and the opposition claim that by accepting the agreement, Brazil would have to pay *royalties* for these species. But, environmentalists debate such opinions explaining that the Protocol is not retroactive, *i.e.* it includes only what is created after it enters into force.

4.6.4 Enforcement

Article 6 of the Convention establishes that the Parties must create strategies and national programs for the sustainable use of its biodiversity, developing a National Biodiversity Policy (PNB). Accordingly, the Decree n. 1.354/1994, created the National Program of Biological Diversity (PRONABIO) and the National Commission on Biodiversity. The applicability of CBD was intensified by the creation of National Policy on Biodiversity, through the Decree n. 4.339/2002. The policy provides that the MMA, through PRONABIO, must coordinate the implementation of the principles and guidelines of the National Biodiversity Policy by promoting partnership between government and civil society to the knowledge and conservation of biodiversity, sustainable use of its components and fair and equitable sharing of the benefits. It was also established a coordinating committee of the program, in order to coordinate, monitor and evaluate their actions. Accordingly, the Decree n. 4.703/2003, amended PRONABIO, adapting it to the principles and guidelines for implementation of the National Biodiversity Policy. In addition, the Decree n. 4.703/2003 cancelled the Decree n. 1.354/1994 and created the National Biodiversity Commission (CONABIO). CONABIO promotes the implementation of commitments made by Brazil to the

CBD, and identifies and proposes priority areas and actions for research, conservation and sustainable use of biodiversity components.

In respect of legislative implementation and according to the CBD information on country profile, Brazil has an extensive history of legal instruments related to environmental and biodiversity conservation. 'In recent times, a more comprehensive system of environmental legislation has been developed. In 2009, the Ministry of Environment updated its inventory of national environmental legislation, identifying 550 legal instruments related to implementing the global biodiversity targets. The Brazilian Government has also created a variety of federal funds and a few tax incentives to promote environmental conservation. There are active state-level environmental funds, socio-economic funds and donations from the private sector and international organizations. Mechanisms such as the Green VAT (ICMS Ecológico)[227] are in place to provide tax incentives to individuals or municipalities who invest in conservation.'[228]

Brazil's 2020 biodiversity targets were adopted in September 2013 and are aligned with the Aichi Biodiversity Targets.[229] Amongst the actions taken, are: the establishment of ecological corridors; mosaics of protected areas; sustainable forest management, including non-timber products; sustainable agriculture (e.g. Brazil is implementing a National Strategy for Promoting Integrated Production in Agriculture, with the objectives of promoting sustainable development and improving the competitiveness of Brazilian agribusiness; incentives for small-scale family production; organic agricultural production).[230] In this sense, according to Global Biodiversity Outlook 4 (GBO4), the Strategic Goal B confirms that in the Brazilian Amazon, the loss of forests habitats have been significantly slowed,[231] corresponding to Target 5 of the Aichi Biodiversity Targets.

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[227] Maryanne Grieg-Gran, '*Fiscal Incentives for Biodiversity Conservation: The ICMS Ecológico in Brazil*' (IIED 2000) 1 https://www.cbd.int/financial/fiscalenviron/brazil-fiscalicms-iied.pdf accessed 30 March 2015.

[228] Convention on Biological Diversity 'Brazil'. < https://www.cbd.int/countries/default.shtml?country=br> accessed 30 March 2015.

[229] "National Target 11, which by 2020, will be preserved through conservation units under Law SNUC and other categories of officially protected areas, such as APPs, legal reserves and indigenous lands with native vegetation at least 30% of the Amazon, 17% of each of the other terrestrial biomes and 10% of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, assured and respected demarcation, regularization and effective and equitable management, aiming to ensure interconnection, integration and representation in ecological land and seascapes larger" http://www.cbd.int/doc/nbsap/nbsapcbw-global-01/nbsap-nairobi-brazil.pdf accessed 30 March 2015.

[230] Convention on Biological Diversity - Brazil.
<https://www.cbd.int/countries/profile/default.shtml?country=br#measures> accessed 30 March 2015.

[231] Global Biodiversity Outlook 4 (GBO4) by Secretariat of the Convention on Biological Diversity (2014). 6 <https://www.cbd.int/gbo/gbo4/gbo4-summary-en.pdf> accessed 22 April 2015.

4.6.5 Brief discussion

It is hard to enumerate the legislative breaches of Brazilian domestic environmental law regarding the obligations assumed to the CBD. There is an institutionalized disorder regarding environmental laws and policies. It seems that every two steps forward, another step back is taken regarding creation and implementation of laws. A future law seems to always jeopardize what was established by a previous law. Such incongruity and inconsistency demonstrates the lack of political will regarding the environmental protection, which affects every day the future of the Amazon to a balanced environment. Despite having one of the greatest biodiversity in the world, Brazil also shows up late in relation to the formulation of its legislation, that despite being in great number,[232] are in fact not so effective, especially in regard to biopiracy. The lack of importance and attention by the society reveals to be another reason for inconsistent rules to be still in force, which shows itself to be more detrimental to the environment instead of preserve and protect.

4.7 UNFCCC (1992)

4.7.1 Background

UNFCCC was one of the three adopted Conventions during the United Nations Conference on Environment and Development held in Rio de Janeiro in 1992.[233] The Convention arose from the concern of scientists to the anomalies observed in the temperature, which indicated a global warming trend due to anthropogenic reasons. Under the precautionary principle, the signatory countries committed themselves to develop a comprehensive strategy "to protect the climate system for present and future generations" (preamble). The Convention has set as its main objective to "stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system". To this end, commitments and obligations were defined for all State Parties to the Convention, taking into account the principle of common but differentiated responsibilities, observing the specific needs of developing countries and the most vulnerable countries, and giving certain specific commitments for developed countries. The CoP meets in Bonn, Germany, where the seat of the Secretariat is also located, or unless a Party offers to host the session. The CoP Presidency rotates among the five recognized UN regions,

[232] (n 228) Regarding the national environmental legislation, by the year of 2009, the MMA identified 550 legal instruments related to implementing the global biodiversity targets.
[233] (n 7)

which are Africa, Asia, Latin America and the Caribbean, Central and Western Europe and others, where the venue of the CoP can also shift amongst these regions.[234]

4.7.1.1 Kyoto Protocol

The Kyoto Protocol provides three flexible mechanisms, with the intention of helping Annex I countries in achieving emissions reduction target: Emissions Trading, Joint Implementation and Clean Development Mechanism (CDM). The first two apply to Annex I countries of the Convention, whereas the latter, the CDM, applies also to countries not included in Annex I. The Protocol entered into force on February 16, 2005, shortly after meeting the conditions, which required ratification by at least 55% of all member countries of the Convention and which were responsible for at least 55% of the total 1990 emissions. This first stage of the Protocol took place between 2008 and 2012, the year when countries have decided to extend it until 2020. After that, every country should begin to enforce new emissions-cutting commitment. Brazil ratified the document on August 23, 2002, and its internal approval is given by means of Legislative Decree n. 144 of 2002.

4.7.2 Principle obligations

Conveyed in the preamble of the Convention, is the State Parties "sovereign right to exploit their own resources, pursuant to their own environmental and developmental policies". In attention to the respective capabilities of countries, on basis of equity and regarding their common but differentiated responsibilities, developed countries take the lead on combating climate change, while developing countries have the "legitimate priority need to achievement of sustained economic growth and eradication of poverty".[235] For this matter, to achieve sustainable economic and social development along with greater energy efficiency, also for controlling greenhouse gas emissions in general and to meet the Convention's commitments, developing countries will receive financial resources and transfer of technology from developed countries.

Amongst the commitments assumed by all Parties, article 4 includes: Prepare national inventories of greenhouse gas emissions; Implement national and/or regional programs with measures to mitigate climate change and adapt to it; Promote the development, application and diffusion of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of greenhouse gases; Promote and cooperate in scientific, technological, technical, socio-

[234] UNFCCC Background of the CoP http://unfccc.int/bodies/body/6383.php accessed 5 May 2015.
[235] (n 7) Preamble

economic and other, systematic observation and development of data archives related to the climate system; Promote and cooperate in education, training and public awareness related to climate change.

International cooperation in benefit of the Amazon

In the midst of commitments assumed by developed countries, the following are specific to assist developing nations: Transferring technology and financial resources to developing countries; Assist developing countries, particularly the most vulnerable to climate change, to implement adaptation actions and prepare for climate change by reducing their impacts. Accordingly, Germany and Brazil have strengthen a bilateral partnership on climate change,[236] with joint work towards a successful outcome of the Paris Climate Change Conference (CoP 21 in December 2015) and aiming to expand bilateral cooperation on areas of common interest, as well as emphasizing crucial deep cuts in global greenhouse gas emissions.

Germany also granted financial support to Brazilian environmental programs in the Amazon region, specifically to ARPA and future support to the Rural Environmental Registry (CAR) and sustainable economic development in the Amazon region. The bilateral agreement also established a transition to energy systems based on renewables; decarbonization of global economy; end illegal deforestation in the Amazon by 2030; concessional loans for reforestation; increase the use of wind power and energy efficiency by 2030. Another bilateral on climate change happened between Brazil and U.S.[237] Norway also invest in the Amazon Fund with the objective of fighting deforestation.[238]

Not all Brazilian bilateral agreements involving the Amazon area are in its favour. A potential harmful bilateral agreement to influence the Amazon happened between Brazil and China[239] as a predominantly commercial pact that will influence and bring an environmental impact

[236] Ministry of International Relations (MRE) 'Brazilian-German Joint Statement on Climate Change'. Brasília, 20 of August, 2015. http://www.itamaraty.gov.br/index.php?option=com_content&view=article&id=10944&catid=42&Itemid=280&lang=pt-BR#eng accessed in 10 September 2015.

[237] 'U.S.- Brazil Joint Statement On Climate Change'. The White House Office of the Press Secretary https://www.whitehouse.gov/the-press-office/2015/06/30/us-brazil-joint-statement-climate-change accessed 4 September 2015.

[238] Amazon Fund Total Donations received - Historical Values http://www.fundoamazonia.gov.br/FundoAmazonia/fam/site_pt/Esquerdo/Doacoes/ accessed 3 September 2015.

[239] Ministry of External Relations of Brazil 'Joint Action Plan Between the Government of the Federative Republic of Brazil and the Governement of the People's Republic of China - 2015-2021'.

on sensitive areas on the Brazilian Amazon and the Peruvian Amazon. The "bioceanic railway connection" studies and subsequent construction will bring future exploitation to the Amazonian area disturbing the ecosystem, being detrimental to the local biodiversity and indigenous populations, consequently causing environmental and social destruction. Despite the international financial aid and investments, according to a study,[240] the current Brazilian government has made a budget cut of 72% on programs for deforestation in the Amazon, where the budgeted amount and the realized amount are totally discrepant, which contradicts the financial agreements and once more does not reflect a political will to invest in the conservation of the Amazon.

Greenhouse gas emissions in Brazil

A study between the years of 1990 and 2013[241] of gross emissions of greenhouse gases (GHG) in Brazil, showed an increase from 1.83 billion tons of gas carbon equivalent (Gt CO2 e) to 1.59 Gt CO2e, a decrease of 15%. Nevertheless, the emissions had distinct periods of growth and reductions, exceeding 2.8 Gt CO2e between 1995 and 2004, and dropping to almost half (1.4 Gt CO2 e) in 2012. Concerning 2012 and 2013, there was an increase 8% of emissions, despite the stagnation of the economy. In the same period (1990-2013), global emissions grew almost continuously over 35% reaching about 52 billion tonnes (Gt CO2 e) in 2013.[242] This shows that in Brazil, the variations over time are described in particular by changes in land use (alterations in vegetation cover like deforestation or reforestation), which are predominantly due to deforestation in the Amazon. The land use changes still represent the largest source of greenhouse gas emissions in Brazil, when gross emissions are examined. Still according to the study, between 1990 and 2013, the emissions sector of greenhouse gases accounted for the largest share of Brazilian emissions, reaching more than 70% in a few years, and it almost reached 80% due to deforestation in the Amazon (between 1995 and 2004). In 2012, it reached their lowest value of 32% of emissions, and

http://www.itamaraty.gov.br/index.php?option=com_content&view=article&id=9687:visita-oficial-do-primeiro-ministro-da-republica-popular-da-china-li-keqiang-ao-brasil-documentos-brasilia-19-de-maio-de-2015&catid=42:notas&lang=pt-BR&Itemid=280#pac-eng accessed 03 September 2015.

[240] InfoAmazônia *A Política do Desmatamento* < http://desmatamento.infoamazonia.org/analise/> accessed 10 December 2015.

[241] 'Documento síntese: Análise das emissões de GEE no Brasil (1970-2013) e suas implicações para políticas públicas' Governos Locais pela Sustentabilidade (ICLEI) *et al* – São Paulo: Observatório do Clima, 2015. https://s3-sa-east-1.amazonaws.com/seeg.tracersoft.com.br/wp-content/uploads/2015/08/sintese_2015.pdf accessed 04 September 2015. 7

[242] ibid 7

it increased again in 2013 reaching 35% of the total[243]. The main reason was again the increase in deforestation in the Amazon. In this regard, it is unmistakeable the impact of deforestation in the Amazon and the magnitude in relation to GHG.[244] But recent studies have shown that the dams in the Amazon are also a source of GHG emissions.

4.7.3 Brazilian legislation

Brazil is a non-Annex I Party and was the first country to sign the Convention, which only came into force on May 29, 1994, ninety days after it has been approved and ratified by the Brazilian Congress. The National Policy on Climate Change (PNMC) was established by the Law n. 12.187 of December 29, 2009. Almost all its articles are self-applicable, except Arts. 6, 11 and 12, which are regulated by the Decree n. 7.390 of December 09, 2010, that establishes limits of emission of greenhouse gases and programs to achieve the goals by 2020.

The law leading objectives are: to expand the scientific, technological and institutional capacity of Brazil on Global Climate Change, in order to increase knowledge of the phenomenon; identify the impacts on the country and subsidize public policies for tackling the problem at the national and international levels; VI - preservation, conservation and protection of environmental resources, with particular attention to large natural biomes considered as National Heritage; VII - the consolidation and expansion of legally protected areas and the encouragement of reforestation and restoration of vegetation cover in degraded areas (Art. 4).[245]

Moreover, the Presidential Decree n.6.263 of November 21, 2007, created the Interministerial Committee on Climate Change (CIM) forming a National Plan on Climate Change. The plan came in 2008 and aims to encourage the development and improvement of actions of mitigation in Brazil, contributing to the global effort to reduce emissions of greenhouse gases, as well as with the objective to create internal conditions to deal with the adaptation and impacts of global climate change.[246]

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[243] ibid 18

[244] See further: For a more detailed emission information, the World Resources Institute has created a profile about Brazil. http://cait.wri.org/profile/Brazil accessed 10 September 2015.

[245] Ordinary Law n. 12.187 of December 29, 2009. Presidency of the Republic http://www.planalto.gov.br/ccivil_03/_ato2007-2010/2009/lei/l12187.htm

[246] MMA – Adaptation Plan – The National Climate Change Adaptation Plan (PNA). Among its main goals, is the reduction of the annual deforestation in the Amazon (reduction of 80% by 2020, according to article 6 of the Decree n.6.263/2007). http://www.mma.gov.br/estruturas/smcq_climaticas/_arquivos/plano_nacional_mudanca_clima.pdf accessed 10 September 2015.

During the CoP 15 in Copenhagen 2009,[247] Brazil signed a voluntary reduction commitments of greenhouse gas emissions between 36.1% and 38.9% of projected emissions by 2020, indicated national mitigation actions intended to be taken: 'Reduction in the Amazon deforestation (range of estimated reduction: 564 million tons of CO2 eq in 2020)',[248] articulated in article 12 of Law n. 12.187/2009. The Presidential Decree n. 7.390/2010[249] defined the PPCDAm as an instrument of the National Plan on Climate Change (PNMC),[250] along with Sectoral Plans, as established by article 3. Other important plans of action brought by the new FC/2012, are the Environmental Adjustment Program and the Rural Environmental Registry (CAR)[251] which arose from the need for environmental regularization of rural property by establishing, maintaining and/or recovering of legal reserves and areas of permanent preservation, and restricted use areas.

Essential measures to mitigate and adapt to climate change are to slow down, stop and reverse the loss of forest cover and carbon associated stocks. In this sense, following the decisions of CoP 19 (Decisions 9-15)[252] and CoP 16 (Decision 1, appendix I, paragraph 2, 70 and 72)[253] as to while implementing the REDD+ strategies, to address the safeguards ensuring the full and effective participation of relevant stakeholders as well as indigenous peoples and local communities, Brazil has submitted in 2013[254] and 2014 reports of implementation proceedings on REDD+ Safeguards and strategies.

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[247] CoP 15 Copenhagen, Denmark [2009]

[248] Appendix II - Nationally appropriate mitigation actions of developing country Parties – Brazil Letter including nationally appropriate mitigation actions. http://unfccc.int/meetings/cop_15/copenhagen_accord/items/5265.php accessed in 02 September 2015.

[249] The Presidential Decree 7.390/2010 also brought other four important mitigation programs: Sectoral Plan for Mitigation of Climate Change for the Consolidation of a Saving Low Carbon in the Manufacturing Industry; Plan MBC Mining Plan for Low Carbon Emission; PSTM Sectoral Transport Plan and Urban Mobility for the Mitigation of Climate Change; Health Sectoral Plan for Mitigation and Adaptation to Climate Change.

[250] Among the instruments of PNMC, it has also a financing tool initiative related to climate change, the National Fund on Climate Change (FNMC) or Climate Fund, which was created by Law n. 12.114/2009 and regulated by Decree No. 7.343/2010. It is an entity accounting, under the Ministry of Environment (MMA), which aims (Art. 2, Law No. 12.114/2009): "Art. 2nd (...) ensure resources to support projects or studies and finance businesses aimed at climate change mitigation and adaptation to climate change and its effects." In art. 5, §4, of Law n. 12.114/2009, lists the activities related to prevention and control of deforestation that can access the Climate Fund resources.

[251] FC/2012, art. 29 "It created the Rural Environmental Registry - CAR, under the National System of Environmental Information - SINIMA, electronic public record nationwide, compulsory for all rural properties, in order to integrate information environmental impacts of rural properties and possessions, making database for control, monitoring, environmental and economic planning and combating deforestation."

[252] CoP 19 Decision 15 [2013]http://unfccc.int/resource/docs/2013/cop19/eng/10a01.pdf#page=43 accessed 05 September 2015.

[253] CoP 16 Decision 1 FCCC/CP/2010/7/Add.1 http://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf accessed 05 September 2015.

[254] Brazil submitted the 'Report Survey to identify information and sources to feed the Safeguards Information System', from April 2013, an internal document to the Ministry of Environment (MMA) developed by a panel of national experts

4.7.4 Enforcement

The Presidential Decree n.6.263 of November 21, 2007 created the program PPCDAm,[255] a tactical-operational plan with actions and clearly defined targets that brings together various public policies and programs (more than 11) whose objectives contribute to the prevention and control of deforestation in the Amazon.[256] After an evaluation of activities between the phase one and two (from 2004 to 2011) of the program, it was considered that the themes established to tackle deforestation in the Amazon would be: 1- Land and territorial Planning, 2- Monitoring and control and 3- Fostering sustainable productive activities. These themes are considered crucial to promote the transition from the current development model to a sustainable model.[257]

Analysis of results from phases one (2004-2007) and phase two (2008-2011), indicated that the anti-deforestation policies contributed significantly to the decline in deforestation over the 2000s. Estimates suggest that between mid-2005 and 2009, policies prevented 27 to 62,000 km² of deforested area. This represents 32% to 52% of that would be deforested in the period, in the absence of policies. Meaning the prevention of a loss of 270 million to 621 million tons of CO2.[258]

The third phase of the last PPCDAm report from year 2012 – 2015,[259] which aimed at the sustainable use and conservation of Amazonian forest, revealed a list of 112 causes of illegal deforestation,[260] demonstrating the complexity of the situation in relation to those three established themes to tackle deforestation (above mentioned). According to this list, the main problems to accentuate are related to moroseness or total lack of implementation of public programs due to: difficulties to access information on the programs; insufficient human and budgetary resources for the management and development of the programs; human resources lacking proper qualification;

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in REDD+ (SIS REDD+) safeguards (Technical Panel). <http://redd.mma.gov.br/images/Publicacoes/sumario_salvaguardas_portugues.pdf> accessed 5 September 2015.

[255] (n 117) PPCDAm 3ª Fase (2012-2015). The first and second phases of the Program happened between the years of 2004 to 2011. After 2004, with the creation of this program, the annual deforestation rate had a drastic reduction, dropping from a total of 27 772 km² reached in 2004 to 6,418 km² for the period 2010-2011, according with data from Brazilian Amazon Forest Satellite Monitoring (PRODES). As a result, it generated, according to recent data, a built up area deforestation of about 18% of the forest area (about 748 000 km²). In 2012, the deforestation rate reached its lowest historical value of the monitoring series INPE reaching 4,656 km² (more than three times the size of São Paulo city), according to preliminary data from the PRODES system. 20 <http://www.mma.gov.br/images/arquivo/80120/PPCDAm/_FINAL_PPCDAM.PDF> accessed in August 25, 2015.

[256] ibid 30

[257] ibid 20

[258] ibid 24

[259] ibid 24

[260] ibid Organogram chart by PPCDAm of the 112 causes of deforestation and illegal logging in the Legal Amazon. <http://www.mma.gov.br/images/arquivo/80120/PPCDAm/MODELO%20LOGICO%20PPCDAM%202012%20-%20site.png> accessed in 01 September 2015. 169-171.

low participation of land state organs; lack of correct planning of responsible public organs; lack of legal competence and integration between federal entities in monitoring the programs; technical weakness of infraction notices issued by IBAMA; administrative and criminal impunity related to illegal logging; corruption of public agents; inefficiency implementing forestry concession rights; amongst others.[261] In this context, the PPCDAm started its third implementation phase (2012-2015) with an even larger challenge as to promote actions consistent with the new dynamics of deforestation, focusing on the reported problems causing illegal deforestation, and give scale and efficiency to the alignment of Fostering Sustainable Production Activities. The results of the third phase were not yet published.

Access to Amazonian information

Access to Amazonian data on deforestation and forest degradation has not been adequate. Social and environmental governmental organs have not been providing public access to relevant information. According to a Republic Prosecutor of Roraima,[262] IBAMA, INPE, and SFB have been disobeying the CF/1988, the Law of Access of Information n. 12.527/2011 (LAI), the National Environmental Policy and obligations assumed in international treaties in which Brazil is a signatory. IBAMA and INPE declared that have established a specific protocol for disclosure of the real data regarding the deforestation in the Amazon, as it is being handled to prevent the use of geo-referenced information by loggers.[263] The reason is so criminals will not be able to know where are located the possible deforestation sites identified by the systems PRODES/DETER, and the environmental agents will also be better protected. This leaves a doubt of how much of the official available data is actually accurate. Overall, official government data about the Amazon is almost not available, e.g., the System Information about the Brazilian Biodiversity (SiBBr) has not data over efforts for conservation available.[264] Nonetheless, governmental organs must obviously comply with the CF/1988 and LAI, and consequently with international obligations. Regarding the Amazon, NGOs are an essential source of transparent studies and other available data.

[261] (n 254-255) 169-171.
[262] Federal Public Prosecutor Recommendation to Public Organs regarding the Amazon <http://4ccr.pgr.mpf.mp.br/institucional/grupos-de-trabalho/amazonia-legal/transparencia-das-informacoes-ambientais/recomendacoes > accessed 7 December 2015.
[263] IBAMA < http://www.ibama.gov.br/publicadas/cerco-ao-crime-na-amazonia > accessed 7 September 2015.
[264] SiBBr < http://www.sibbr.gov.br/areas/index.php?area=conservacao > accessed 7 September 2015.

For instance, Brazil provided its Intended Nationally Determined Contributions (INDCs) for the CoP 21 (December 2015 in Paris) late, it did not publicly inform such targets limit commitment to civil society, and it did not open it for public discussion before registering it at the UNFCCC Secretariat. A civil society representative, Climate Observatory (Observatório do Clima), have delivered to the government, a request to participate on discussions about target limit commitments and has provided propositions affirming that Brazil can limit emissions to 1 billion ton by 2030 and still make profit.[265] The Brazilian President declared that the INDCs will be 37% by 2025, and by 2030, the ambition is to reach a 43% reduction, both cases the base year is 2005. By the end of 2030, referring to the use of land and agriculture, Brazil plans to the end of the illegal deforestation in Brazil; restore and reforest 12 million hectares; recover 15 million hectares of degraded pastures; and integrate five million hectares of crop-livestock-forest.[266]

Reforestation

In Brazil, the recovery of degraded areas is established at the CF/1988, Art. 225, §1, "I - preserve and restore the essential ecological processes and provide for the ecological treatment of species and ecosystems;" and "§2 Those who exploit mineral resources shall be required to restore the degraded environment, in accordance with the technical solutions demanded by the competent public agency, as required by law." Also, the PNMA on art. 2 and art. 4; FC/2012 on arts. 1º-A, 7º, 17, 41, 44, 46, 51, 54, 58, 61-A, 64, 65 e 66; the National Forest Program (PNF) and the DBFLO are also in charge of forest recovery. But, despite large disposition in law, forest recovery obviously does not happened in half of the pace of deforestation and this is an issue to be addressed urgently. The government projects are also very slow and sparse, and no Reference Centres for Recovery of Degraded Areas (CRADs) were created in the Amazon.

[265] Observatório do Clima "Our fair share - Policies, measures and actions for an ambitious low-carbon development target for Brazil". 1. The proposition is to "eliminate emissions from land-use changes (deforestation) and limit energy emissions to 617 million tCO2e, industrial process emissions to 123 million tCO2e, agricultural sector emissions to 280 million tCO2e and waste emissions to 60 million tCO2e, in addition to removing at least 80 million tCO2e from the atmosphere by regenerating degraded areas." <http://www.observatoriodoclima.eco.br/wp-content/uploads/2015/06/Supporting-material.pdf>access 10 September 2015.

[266] Ministry of Environment – Speech of Brazilian President to UNFCCC <http://www.mma.gov.br/index.php/comunicacao/agencia-informma?view=blog&id=1162> access 27 September 2015.

4.7.5 Brief discussion

In the past years, Brazil has suffered with the effects of climate change, with extreme events as floods and landslides in the south and southeast regions, drought in northeast and southeast regions, unprecedented elevation of temperature in the Midwest region of the country, increasing forest fires which affects the Amazon and that consequently affects the rest of the country. Significant programmes have been created, among other steps to map deforestation causes in the Amazon and its consequent GHG emissions. However, the legislation is still chaotic and relatively new, thus operationalization is still a challenge.

To assess compliance regarding the climate change efforts is still early for Brazil. Compliance is the result of successfully enforced laws and this is not the Brazilian Amazon case. It still struggles and it urgently needs a strong political leadership, with more effective political will which is less troubled by corruption scandals and that can invest more effort on environmental issues. It also needs to set its environmental priorities regarding the Amazon to produce effective results. The list of 112 causes of illegal deforestation reflects this inconsistency of the environmental laws and the decentralization issues are reflected on unclear or imprecise regulations. Information and access of environmental education is another issue to be addressed and it should be priority, when the human resources are in its majority not qualified and incapable to fulfil the activities.

Proliferation of dams in the Amazon[267] and bilateral agreement with China for a bioceanic railroad to take away the Amazonian biodiversity are just two examples of priorities of the current Brazilian government that reflect business as usual. For this government, it seems that the Amazon is more valuable dead than alive. Their actions are conflicting not only with the CF/1988 and other environmental principles and laws, but it reflects incoherence with assumed international obligations. How long will Brazil take to be compliant with international accords?

[267] (n 69, n 82) Philip Fearnside "*Greenhouse gas emissions from hydroelectric dams: controversies provide a springboard for rethinking a supposedly "clean" energy source*". 6-7. <https://www.academia.edu/1187968/Greenhouse_gas_emissions_from_hydroelectric_dams_controversies_provide_a_springboard_for_rethinking_a_supposedly_clean_energy_source_ > access 27 September 2015.

4.8 CCD (1994)

4.8.1 Background

Adopted in Paris, France on 17 June of 1994, UNCCD[268] has entered into force in December 1996. The Convention born from Rio Conference in 1992 concerns on the matter of desertification, more specifically from Agenda 21,[269] Chapter 12 'Managing Fragile Ecosystems: Combating Desertification And Drought'. An action plan had to be negotiated focusing on combating desertification, land degradation and also promote sustainable development on an international level. In December 1992, the General Assembly adopted the UN Resolution 47/188 for the establishment of an intergovernmental negotiating committee for the elaboration of the convention. Negotiations completed in five session and UNCCD was adopted as the only internationally legally binding framework assembled to address desertification.

Held in Bonn, Germany since January 1999, the permanent Secretariat of the Convention was established in Article 23, UNCCD. The supreme governing body for the convention is the CoP, which was held annually for the first five sessions (1997-2001) and biannually held afterwards. The Convention counts with two subsidiary bodies: Committee on Science and Technology (CST) established by Article 24, and Committee for the Review of the Implementation of the Convention (CRIC), established by CoP 5[270] in 2001. Both bodies' objectives are conducted by the ten-year strategy[271] to enhance implementation of the convention through the period of 2008-2018.[272]

4.8.2 Principle obligations

The leading right defined in the convention is reaffirmed at the preamble as the sovereign right to exploit their own resources, following principle 2 from the Rio Declaration. UNCCD provided State Parties duties in Article 4 (general obligations), Article 5 (for affected State Parties) and Article 6 (for developed country Parties). Taking into account the main principles brought by the convention which are based on good governance and sustainable development, realised through

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[268] (n 8)

[269] (n 56) United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil in 1992. Agenda 21 is one of the documents resulting from the Conference.

[270] CoP 5 of 2001, held in Geneva.

[271] Decision 3 CoP 8 of 2007, held in Madrid. <http://www.unccd.int/Lists/SiteDocumentLibrary/10YearStrategy/Decision%203COP8%20adoption%20of%20The%20Strategy.pdf >accessed 24 September 2015.

[272] United Nations Convention to Combat Desertification (UNCCD) – 'The Convention' <http://www.unccd.int/en/about-the-convention/Pages/About-the-Convention.aspx> accessed 24 September 2015.

participation, partnership and decentralization, State Parties have obligations as to pursue: integrative strategies to eradicate poverty; adopt an integrative approach to address biological, physical and socio-economic aspects of the process of desertification and drought; promote international cooperation among affected Parties in the field of environmental protection strengthening also sub regional and regional cooperation. Beside the obligations listed in article 6, developed countries have assumed commitments contained in paragraph 13 of chapter 33 of Agenda 21.[273]

Desertification in the Brazilian Amazon

Over the years, human occupation and exploitation of natural resources are impacting the dry regions of the country, causing land degradation, loss of native vegetation and reduced water availability. The intensification of such processes took increasing fraction of these regions to the condition of degraded areas according to a phenomenon known as desertification. Through the last decades, the Brazilian Amazon region has suffered with deforestation, which if not halted can have catastrophic consequences like soil depletion and in extreme disastrous circumstances, desertification. Deforestation and other contributions,[274] exposes and weakness the soil to frequent and substantial rain, stirring lixiviation, which takes soil nutrients and organic material, as well as stones and debris are taken by the water of rain accumulating in rivers. This causes siltation and the formation of sandbars, which decrease the flow of water from Amazonian rivers. Depleted soil and lower river flows hinder the birth of large trees in the areas of agriculture that can be abandoned. Instead, there are shrubs and small vegetation, such as cerrado, in the Brazilian Midwest region. Less dense vegetation makes animals die or leave the area, like birds, which help in the conservation of forest as they transport nutrients and seeds. Reducing the fauna is another factor that prevents the recovery of the forest.

Brazil has a variety of climates that poses numerous challenges. Part of the country - predominantly in Northeast region - presents a climatic condition characterized by periods of prolonged drought and concentrated rain, dominated by semi-arid and dry sub-humid climates. This is not the case of Legal Amazon. Nonetheless, drought and floods in the Amazon region have

[273] (n 269)

[274] Threats that help deforestation: cattle ranching, fire, illegal and unsustainable logging and plant extraction, grazing, agriculture, mining, amongst others.

been also alarming in the past twenty years. It was registered extreme droughts in 1997, 2005[275], the most severe that occurred in 2010[276], and the severe floods of 2006, 2009 and 2015. Climate change impacts this scenario. The last droughts of 2010 enhanced the process and the fire cleared the forest, making room for grass, transforming the Amazon into something more like savanna. Soil depletion and frequent drought will ultimately result on desertification, which will affect global warming due to soil and vegetation losses and thus loss of biodiversity.

4.8.3 Brazilian legislation

Brazil is under specific guidelines for effective operationalization of UNCCD on Annex III of Regional Implementation for Latin America and the Caribbean. These guidelines include the adoption of an integrated approach to desertification and drought problems by promoting sustainable development models addressing environmental, economic and social situations in the country, with special attention to Part III of the convention.

UNCCD was promulgated in Brazil by the Presidential Decree n. 2.741 of 20 August 1998. Continuing the process of implementation, a National Commission created the National Action Program to Combat Desertification and Mitigate the Effects of Drought - PAN Brazil[277] in respecting to commitments under UNCCD. It was also created by the government of Brazil the National Commission Anti-Desertification – CNCD,[278] through Presidential Decree of July 21, 2008, chaired by the MMA. A CONAMA Resolution n. 238/1997[279] approves the National Policy on Desertification Control.

National legislation on desertification encompasses the whole national territory, hence the Amazon. However, the national program to combat desertification is not focused on the Amazon, but it counts with the national system of prevention and alert, the National Centre for Monitoring

[275] See further: Ning Zeng *Causes and impacts of the 2005 Amazon drought* Published 30 January 2008. IOP Publishing Ltd. Environmental Research Letters, Volume 3, Number 1. <http://iopscience.iop.org/article/10.1088/1748-9326/3/1/014002/pdf> accessed 24 September 2015.

[276] See further: Simon L. Lewis et al. *The 2010 Amazon Drought* Science 4 February 2011: Vol. 331 no. 6017. 554 <http://www.sciencemag.org/content/331/6017/554> accessed 24 September 2015.

[277] The area covered by the program is predominantly in the Northeast region and it does not involve the Amazon, except for part of the state of Maranhão, which is situated in a transition strip of the biomes Caatinga/Cerrado/Pre-Amazonia, and has, for this reason, singular characteristics. In its interior there are strips of territory which are being characterized as susceptible to the process desertification, both for natural reasons as well as for intense and disorganized human activity.

[278] The CNCD, a collective body of consultative and deliberative nature, consists of 44 representatives from civil society and the federal, state and municipal governments and the productive sector related to the topic.

[279] CONAMA Resolution n. 238 of 22 December 1997. <http://www.mma.gov.br/port/conama/res/res97/res23897.html> accessed 24 September 2015.

and Natural Disasters Alerts (Cemaden / MCTI) which continuously monitors the ascent of the Amazon River and its tributaries, as well as factors that can aggravate their impact.

4.8.4 Enforcement

Under control of INPE, four programs are responsible to monitor via satellite the Amazon: PRODES, DETER, DEGRAD and QUEIMADAS.[280] All programs work together to detect where fire can occur and illegal logging among other problems on degraded areas. The recent problem with the real time satellite monitoring is that the criminals are downscaling and acting in a different manner not to be caught by the satellites, like acting during night.[281] But all the information collected is gathered and crossed through the four programs. Important as DEGRAD[282] is the QUEIMADAS program, which is responsible to detect and combat wildfires, dedicated to the fire occurrence in preservation areas, such as Parks, Forests, Biological Reserves in municipal, state and federal areas, and Indigenous Lands. Currently, there are no specific desertification programs for the Amazon.

4.8.5 Brief discussion

Alarming occurrences resulted from the latest droughts and floods in the Amazon, especially in the south area and the transition part of biomes of Amazon to Cerrado and Caatinga, the region called Arc of Deforestation. Halting deforestation and reforest it became an urgent matter and must be treated with priority. Land use and forest degradation can transform the Amazon area into Cerrado and in the worst case scenario, it can become like Caatinga. The Arc of Deforestation is a sign that the degraded area is growing around the Amazon with the urbanization and farming taking over the forest areas. Studies demonstrate that the Amazon is more vulnerable to climate change than imagined.[283] There are already strong indications that extreme drought events will be increasingly frequent in the region. For this reason, deforestation is one of the most distressing factors as it aggravates the desertification process in the biome. Under these circumstances, strengthening

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[280] (n 169) QUEIMADAS program <http://www.inpe.br/queimadas/> accessed 24 September 2015.

[281] Climate Policy Initiative and Pontifical Catholic University of Rio de Janeiro. Juliano Assunção and Clarissa Gandour. 'Strengthening Brazil's Forest Protection in a Changing Landscape' August, 2015. <http://climatepolicyinitiative.org/publication/strengthening-brazils-forest-protection-in-a-changing-landscape/> accessed 24 September 2015.

[282] Forest Degradation Mapping in the Brazilian Amazon – DEGRAD.

[283] Kenneth J. Feeley, Evan M. Rehm *Amazon's vulnerability to climate change heightened by deforestation and man-made dispersal barriers* [2012] < http://onlinelibrary.wiley.com/doi/10.1111/gcb.12012/abstract> accessed 24 September 2015.

national policies and programs towards the Amazon, to stop the described events and subsequent soil depletion, has become an imperative problem to be effectively addressed before the rainforest cannot recover anymore.

4.9 ITTA (2006)

4.9.1 Background

In 1983, the first International Tropical Timber Agreement (ITTA) came to force, followed by the ITTA of 1994 which was then superseded by the ITTA of 2006.[284] At the fourth session of the United Nations Conference on Trade and Development (UNCTAD), ITTA was adopted in 1983 after a long negotiation period that started in 1976 as part of a Programme for Commodities. The subsequent successor that overrode the treaty (1994 and 2006) were also under the auspices of UNCTAD. Trade and conversation of tropical forests importance were equally accorded at the preamble of ITTA, but its "operation was no conventional commodity agreement. It came as an agreement for forests conservation and development as for trade".[285] The latest ITTA of 2006 was built from the basics of former agreements, aiming on world tropical timber economy and sustainable management of resources base, at the same time encouraging timber trade and forest management enhancement. It also establishes provisions for information sharing, data trade on non-tropical timber and its issues related to tropical timber[286].

The 1983 ITTA created the International Tropical Timber Organization (ITTO)[287] as the administrator and supervisor of convention's provisions according to Article 3. It functions through the governing body of International Tropical Timber Council (ITTC), consonant Article 6. Its headquarters are located at Yokohama, Japan, unless otherwise decided by the Council. Created as an intergovernmental commodity organization, ITTO targets are at the commercialization and industrialization of wood from tropical forests. But, this commerce must be based on sustainable development and management practices that combine environmental protection, social equity and involvement of local expertise in projects. For this reason, ITTO also formulates policies that are adopted by producing countries (tropical developing States) and consumer countries (temperate

[284] (n 9)
[285] About ITTO < http://www.itto.int/about_itto/> accessed 25 September 2015.
[286] ibid
[287] ibid 'ITTO has sixty member countries accounting for 80% of the world's tropical forests and about 90% of trade in tropical timber'.

developed States) of tropical timber, articulating and implementing sustainable management projects with local experts and conducts annual meetings of the International Tropical Timber Council. Stated in Article 26, the subsidiary bodies of ITTO are: the International Tropical Timber Council; Committee on Forest Industry; the Committee on Economics, Statistics and Markets; Committee on Reforestation and Forest Management; and the Committee on Finance and Administration.[288]

4.9.2 Principle obligations

Listed in Article 1, the ITTA objectives are to promote the expansion and diversification of international trade in tropical timber from sustainable managed and legally harvested forests, promoting sustainable management of tropical timber producing forests, especially: to provide an effective framework for consultation, international cooperation and the development of timber economy policies; to contribute to the process of sustainable development; to promote the expansion and diversification of international trade in tropical timber from sustainable sources; to improve forest management and the efficiency of wood utilisation; to provide members with new financial resources and to encourage information-sharing on the international timber market, through ITTO. Alongside the sovereignty right to exploit its own resources, ITTA also expresses the right of utilization and international trade (commercialization and industrialization) of timber and non-timber products, according to described objectives in Article 1 and disposition in Article 34. An important provision regards to compliance, where according to Article 42, a State Party can be excluded from ITTO if proven a breach of obligations under the treaty. The Council will decide on the gravity of such breach and if it impairs the operation of the Agreements provisions, causing the exclusion of the State Party.

ITTO - CITES

Joint initiative between ITTO and CITES has the objective to strengthen implementation on treaties dispositions in relation to timber. The collaborative programme of activities is aimed at ensuring that international trade in CITES-listed timber species is consistent with their sustainable management and conservation, in accordance with Resolution Conf. 14.4 from CoP 14 Doc. 18.2, and as regards the Resolution Conf. 10.13 (Rev. CoP15)[289] in respect of implementation of the

[288] ibid

[289] Cop 15, Conf. 10.13. Implementation of the Convention for timber species. <https://cites.org/sites/default/files/document/E-Res-10-13R15C16.pdf> accessed 02 October 2015.

Convention for timber species. In Brazil,[290] the programme is being executed with assistance in field from Laboratory of Forest Products and Brazilian Forest Service (LPF/SFB), as well the DBFLO, under supervision of IBAMA. The LPF and SFB are developing studies to use technology against illegal trade, with a timber identification to distinguish the endangered species, like mahogany, among others.

ITTO - CBD

Collaborative initiative between ITTO and CBD has the objective to strengthen implementation on treaties dispositions regarding biodiversity conservation, specifically following the Aichi Biodiversity Targets related to Forestry (Targets 5, 7, 11 and 15), Strategic Plan for Biodiversity 2011-2020, the ITTO Action Plan and Regional Biodiversity plan of the Strategic Agenda of ACTO.[291] The partnership with ACTO Member States, aims at building their capacities in ecologically responsible forest management and biodiversity conservation in the Amazon.

4.9.3 Brazilian legislation

Brazil ratified to the Agreement in 18 October 2013 and promulgated it through the Presidential Decree n. 8.330 of November 2014. Since March 2006, a peculiar legislation entered into force to discipline the Public Forests Management, the Ordinary Law n. 11.284,[292] which created a system of sustainable management and many other important related topics. It is considered a fundamental regulatory framework for the sustainable management of public forests, because it entails two important issues: regarding the severe exploitation of forests and its successors formations, especially in the Amazon region, and the fact that a significant proportion of this exploitation is located on public land, as unoccupied lands belonging to the Brazilian Armed Forces, the indigenous peoples, lands under domain of the Federation, states and Municipalities and Conservation Units.

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[290] ITTO-CITES Program for Implementing CITES listing of Tropical Tress Species. Number 2-7. September 2014. <https://www.cites.org/sites/default/files/common/prog/itto/CITES_Newsletter2014.pdf> accessed 02 October 2015.

[291] ITTO/CBD Collaborative Initiative for Tropical Forest Biodiversity <http://www.itto.int/cbd/> (accessed 05 October 2015)

[292] (n 81 and 82) See also Chapter 3, 3.1.2. Ordinary Law n. 11.284 of 02 March 2006. It provides for the management of public forests for sustainable production; establishing, in the structure of the Ministry of Environment, the Brazilian Forest Service - SFB; creates the National Fund for Forest Development - FNDF; and other measures. "Diário Oficial da Uniao" publication on 03/03/2006.

Accordingly, Law n.11.284/2006 sets three forms of Forest Management for a sustainable production: the establishment of Conservation Units; allocation to local communities;[293] and forests concessions. These three forms of forests management are considered polemic issues, especially forests concessions and conservation units, particularly regarding the future of the Amazon, if deforestation and illegal logging keep on escalating. In this sense, sustainable forest management is a capable tool to face the challenges of the Amazonian region. Numerous legal documents have been created and modified seeking to promote a rational utilization of the Amazon Forest, through a sustainable forest management, as for example the treaty in study, ITTA. ITTO was the first institution to suggest a criteria for sustainable indicators on management forest in national level and in Forest Unit Management.

First, "forest concession" is defined in Article 3, VII,[294] and regulated by Article 7, Law n. 11.284/2006, where only lands determined by the Annual Plan of Forest Concession (PAOF) are eligible for concession and must follow a strict administrative process under the Public Auctions Law n. 8.666/1993. Issues linked to forest concessions and illegal logging are, *e.g.*, forged forest concession documents, land grabbing and laundering of illegal logging.[295] It is estimated that between 54% and 78% of timber extraction in the Amazon is illegal, coming from Mato Grosso and Pará[296] states, respectively[297]. Deforestation in the Brazilian Amazon increased 467% in October 2014 in relation to October 2013, denounced the NGO IMAZON, which compared the deforested area of more than 24,000 football fields.[298]

Second, "conservation units" are under the Law n. 9.985/2000. Article 17, which regulates the specified in Article 225, § 1, items I, II, III and VII of the CF/1988, created the National System

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[293] Under Chapter IV of Title II; Article 3, X; and Article 6 of Law n.11.284/2006, setting rules for land allocation to local communities are delimited by the SFB together with other responsible organs of management units, as to identify the public forests occupied by local communities (Art. 3, X).

[294] Law n. 11.284/2006, Article 3, VII: "forest concession - costly delegation, made by the granting authority, the right to practice sustainable forest management for the operation of goods and services in a management unit, through bidding, to companies, in consortium or not, that meets the requirements of the relevant notice bidding and shows the capacity to carry out on their own risk and for a specified period".

[295] Ministério Público Federal – Procuradoria da República no Pará "Fraude no comércio de madeira usa falha na comunicacao entre sistemas de controle". <http://www.prpa.mpf.mp.br/news/2014/fraude-no-comercio-de-madeira-usa-falha-na-comunicacao-entre-sistemas-de-controle> accessed 27 September 2015.

[296] Greenpeace - The Amazon's silent crisis Illegal timber for export – with official documentation.<http://www.illegal-logging.info/sites/default/files/Daniela_Montalto_Presentation.pdf> accessed 27 September 2015.

[297] Greenpeace <http://www.greenpeace.org/brasil/pt/Noticias/Madeira-ilegal-e-os-desafios-da-gestao-ambiental/> accessed 27 September 2015.

[298] IMAZON Deforestation in the Amazon October [2014] <http://imazon.org.br/boletim-do-desmatamento-da-amazonia-legal-outubro-de-2014/> accessed 27 September 2015.

of Conservation Units of Nature. Demarcation, surveillance and supervision are also examples of polemical problems, due to recurrent crimes committed in conservation units.

In relation to forest management, the main federal instruments for protection are: the FC/2012,[299] the Law n. 11.284/2006 which establishes the Management of Public Forests creating the National Forest Development Fund (FNDF) and the CONAMA Resolution n. 406/2009,[300] which creates the Sustainable Forestry Management Plan (PMFS) exclusively in the Amazon, with timber purposes, to native forests and their ways of succession. The Complementary Law n. 140/2011 also establishes administrative actions for the federation, state and municipality in regard to approval, management and the removal of vegetation, forests and succeeding formations of federal, state and municipality public forests, public lands or conservation units established by the Union, state and municipality, except in APAs (Environmental Protected Areas).

Brazil has not signed the New York Declaration on Forests[301] under the argument that it was consulted about the declaration and therefore it could not accept all the terms as it did not participate to the discussion. It officially issues eight reasons[302] for not signing the document, and these reasons are vague and that it hurts the new FC/2012. The issue is that this is a behaviour of the country that back in Rio 1992, also did not sign the Forests Principles[303] as well. The government still promised to halt deforestation by 2030,[304] but it did not sign the NY declaration. Is it because the government knows it is almost impossible to achieve such audacious goal by 2030?

Nonetheless, the Initial Report[305] on the Progress of the Declaration on Forests has made good word on the satellite projects developed by Brazil to map loss of forests in the Amazon, also regarding the international partnership between Norway and Brazil and the financial investments

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[299] (n 11) The Law brings the concept in art. 3, 'VII - sustainable management: management of natural vegetation to achieve economic, social and environmental benefits, respecting the support mechanisms for the management of the object ecosystem and considering, cumulatively or alternatively, the use of multiple timber species or not, multiple products and by-products of flora, and the use of other goods and services'. Sustainable Management is an obligation to be followed when exploiting natural resources from the Amazon.

[300] It brings the important concept in art. 2, "IX - Sustainable Forest Management: Forest administration for obtaining economic, social and environmental benefits, respecting the support mechanisms of the object ecosystem management and considering, cumulatively or alternatively, the use of multiple species." This is an appropriate tool to promote economic development combined to the maintenance of forests and their functions.

[301] (n 13)

[302] Blog do Planalto – Presidência da República *Oito razões pelas quais o Brasil não assinou "acordo" para preservação de florestas* < http://blog.planalto.gov.br/assunto/declaracao-de-nova-iorque-sobre-florestas/ > accessed 30 November 2015.

[303] (n 12)

[304] (n 237)

[305] *Progress on the New York Declaration on Forests: An Assessment Framework and Initial Report* <http://forestdeclaration.org/wp-content/uploads/2015/10/NYDF-Progress-Report.pdf> accessed 30 November 2015. 12.

to the Amazon Fund, and a notable overall progress on in strengthening institutions and policies related to forest governance.[306] It is unquestionable that Brazil has developed its laws and made efforts to adequately enforce these rules over the past decade, but it is still far from adequate to achieve such goals. With the history of past Governments and the corruption installed in all spheres of power, only a miracle to make illegal deforestation end by 2030.

Forest concession rights

An innovation brought by Law n.11.284/2006 is the forest concession process. Initially, the inclusion of forests in the National Register of Public Forests follows the Decree n. 6.063/2007; following Chapter IV of Law n. 11.284/2006, the PAOF annually define which areas will be subject for concession (excluding conservation units and community use lands); it goes through studies to prior authorization of IBAMA which define the possible activities to be included (*e.g.* tourism, products extraction as non-wood oils and resins, or management multiple use, including timber); the auction is made for each unit and the winner is determined based on two criteria: higher price and better technical (less environmental impact, greater social benefit, greater efficiency and greater aggregation of local value); concessions do not imply any right of ownership or possession of the areas, only authorize the management for product exploration and forest services; the contract terms can vary up to 40 years, as management to be implemented, and the definition must be included in the bidding documents; signed contracts, winners must prepare a Plan for Sustainable Forest Management (PMFS) in accordance with current legislation, to be presented to IBAMA for approval before the commencement of operations. Important to note that by law, only companies and organizations established in Brazil will compete for concessions and no company may hold more than two concessions lot (Article 79).

A controversy in terms of land conservation from the government of 2008, is the advent of Law n. 11.763 of August 2008,[307] popularly called "land grabbing law". It extends from 500 to 1.500 hectares limit of invaded zones in rural areas of the Amazon that can be legalized by the government without requirements such as an auction, for example. The absence of bidding process in land concession offends the principles of morality and impersonality governing the Public Administration. By giving land to land grabbers, it is also given the right to the land owner of

[306] Ibid 39-40.

[307] It gives new wording to § 2 b of art. 17 of Law 8.666 of 21 June 1993, that rule insert XXI of the caput of art. 37 of the Constitution and establishing rules for bidding and contracts of public administration.

1.500ha to deforest the area. There is no limit of land per person, so as soon as the land is destroyed, the owner can sell it and do the process of grabbing in a new area all over again. This law offends constitutional principles of environmental protection, in addition to violating international agreements to which Brazil is a member, such as the CBD.

Legal logging and Illegal logging

Brazil has about 493 538 million ha of forest, equivalent to 12% of the world total and it represents 58% of the country area. It is the top country to report the greatest annual forest area reduction (2010 – 2015) in about 980 000 ha[308]. In this sense, native wood of legal origin are woods of native species that come from logging authorized by the competent environmental agency and that have the transport and storage of certificate of eligibility (Document of Forest Origin - DOF, Forest Guide - GF, Environmental Control Guide – GCA, amongst others), and accompanied by the corresponding proof of purchase. To explore legal timber is required Exploration Permit (AUTEX), which may originate from: 'Plan for Sustainable Forest Management' (PMFS); 'Deforestation Authorization for Alternative Soil Use' or 'Authorization for Removal of Vegetation'. In the latter two types of extraction, management is conventional and, despite legal under the law, is not sustainable. On the other hand, when the wood is extracted from areas with Plan for Sustainable Forest Management, the environmental impact is much smaller, ensuring the conservation of forests and the continued availability of raw materials for future generations.[309] Illegal logging is one made without authorization to operate and is characterized by its fast action, predatory and devastating large areas of native forest. Frequently, it occurs even in APP and Legal Reserves, or in areas protected by law.

4.9.4 Enforcement

Established by Law n. 6.938 of August 1981, regulated by Decree n. 99.274, of June 1990, the National Environmental System - SISNAMA, is composed by organs and entities of the Federation, States, Federal District, the Municipalities and the foundations established by governmental agencies responsible for the protection and improvement of environmental quality. It is structured by the Government Council as the superior body; the CONAMA as the consultative and

[308] FAO *Global Forest Resources Assessment 2015 – How are the world's forests changing?* <http://www.fao.org/3/a-i4793e.pdf > accessed 27 September 2015. 15

[309] Governo do Estado de Sao Paulo – Secretaria do Meio Ambiente – Madeira Legal <http://www.ambiente.sp.gov.br/madeiralegal/madeira-legal-vs-madeira-ilegal/> accessed 27 September 2015.

deliberative body; MMA as the central body; IBAMA as the executing agency; Sectional bodies: the bodies or state entities responsible for implementing programs, projects and activities for the control and supervision capable of causing environmental degradation; Local Agencies: municipal agencies or entities responsible for the control and supervision of such activities in their respective jurisdictions.

Subsequently, at the State sphere, State Secretary for the Environment are central organs of state administration with function of formulating and coordinating the state policy of protection and conservation of the environment and management of water resources, aiming at sustainable development. At the Municipal sphere, the Environmental Municipal Secretary is the central body of the municipal administration made up of specialized staff and coated responsible for supervision and environmental licensing. Also, the Municipal Environmental Council is the legislative body, collegiate, consultative and deliberative environmental management, with representatives of organized civil society.

Accordingly, SISNAMA agencies ought to promote dialogue and coordination with specific environmental management systems, as the National Water Resources Management System (SINGREH) and the SNUC. The exercise of common responsibility for the protection of the environment provided in Article 23, sections III, VI and VII and paragraph of the Federal Constitution, was regulated by Complementary Law n. 140/2011, which governs the allocation of functions and the federative cooperation arrangements between SISNAMA agencies. The Law n. 11.284/2006 also brought innovations on responsibilities to management organs of supervision of public forests, and specifically created the SFR and the FNDF.

SISNAMA performance will be by coordinated articulation of the organs and entities that constitute, subject to the access of the public to information on the damage to the environment and environmental protection actions, as established by CONAMA. States, Federal District and Municipalities' regionalization of measures emanating from SISNAMA, developing standards and supplementary courses and complementary standards. The Sectional Bodies shall provide information on their action plans and programs running, embodied in annual reports, which will be consolidated by the MMA, in an annual report on the state of the environment in the country, to be published and submitted for consideration of CONAMA, at its second meeting of the year.

Throughout time, several legal instruments have been created and modified over time, to promote the rational use the Amazon rainforest, through sustainable forest management. Similarly,

other several programs have been developed and substituted in Brazil since the 1990's to support the adoption of forest management, that along with governmental organs like MMA and other ministries, IBAMA, ICMBio, and public corporation Embrapa (Brazilian Agricultural Research Corporation), as well as foundations, NGOs representing civil society, associations, also private initiatives, have developed plans of action to help monitor the Legal Amazon. In the Legal Amazon, many were and are still the programs developed to monitor and control

Consequently, the Law n.11.284/2006 brought innovations and certainly the concession rights is one of them. If properly monitored and controlled, the forest concession can promote sustainable development for the region. Unfortunately, the reality of the Legal Amazon is not an easy one, as one of the central issue is the municipal and state limited apparatus to exercise the power and duty of management of environmental resources and of implementing the existing standards in the Brazilian legal system. Organs do not have proper structure and enough to fulfil the demands required in the region. Another major problem is still the shortage of trained personnel, enough financial support and technical organs in charge of monitoring, control and inspection.

In sum, ITTO acknowledges some of the problems encountered in relation to forestry in Brazil: "poor infrastructure; the remoteness of many forests from centres of commerce and control; the weak competitiveness of SFM as a land-use; the lack of competitiveness of the tropical timber industry; lack of full-cost pricing and the abundant availability of low-cost timber; a serious shortage of management skills; and a lack of enforcement of laws and regulations."[310] It also recognizes that the Brazilian Government has been working to address the problems.

Amazon Sustainable Plan

In 2008, was created the 'Sustainable Amazon Plan' (PAS), a program to promote a sustainable plan, which was prepared under the coordination of Presidency of the Republic Civil House and the Ministries of Environment and National Integration. Amongst the specific objectives, is "a) promote land use planning and environmental management, in order to enable (i) the fight against land grabbing; (ii) the resolution of land conflicts and allocation of public lands; (iii) control on illegal and predatory exploitation of natural resources; and (iv) the protection of regional

[310] ITTO Status of Tropical Forest Management 2011 <http://www.itto.int/sfm_detail/id=12480000> acessed 05 October 2015.

ecosystems." [311] Amongst the programs and plans in development, are: 'Sustainable Regional Development Plan for the Area of Influence of road BR-163'; 'Operations to Combat Illegal Deforestation and Illegal Occupation of Public lands in the Amazon', implemented under PPCDAM; Sustainable Territorial Development Plan for the archipelago Marajó (Pará); Mosaic creation of protected areas along the BR-163 and 'Terra do Meio'; Actions that integrate the 'Program Citizenship Territory'[312]. One of the problems to operationalize the program is the registration and effective legalization of land in the Amazon.

Environmental education in Brazil

Education is the foremost problem of Brazil. The literacy is a challenge, because the public schools system is inefficient, and the expected years of school are just around 15.[313] However, the CF/1988 has preconized in Art. 225, paragraph 1, VI, the obligation of the Government to "promote environmental education at all levels of education and public awareness for the preservation of the environment". The environmental legislation stresses the need for the public participation. Brazil has developed a National Policy on Environmental Education by the creation of Law n.9.795/1999, regulated by the Decree n.4.281/2002, the first country in South America to issue a specific policy for environmental education.

4.9.5 Brief discussion

Altogether, the enormous mix of sparse laws affecting environmental matters brings controversy to the environmental Brazilian legal system. Implementation is therefore more difficult to happen, and in the Amazon even more, due to its size and complexity of problems which only brings more obstacles to reach the purposes brought by the vast legislation. But, not only of good intentions are

[311] Brasil. Presidência da República. 'Amazon Sustainable Plan - Guidelines for sustainable development in the Brazilian Amazon'. 2008. The objective is "to promote sustainable development the Brazilian Amazon, through the implementation of a new model based on the valuation of its huge natural heritage and the contribution investment in technology and infrastructure, aimed at the viability of dynamic and innovative economic activities to generate employment and income, compatible with sustainable use of natural resources and preservation of biomes, and aiming to increase the population's standard of living". <http://www.casacivil.gov.br/.arquivos/110106%20-%20MI%20-%20Plano%20Amazonia%20Sustentavel%20-%20PAS.pdf> accessed 27 September 2015. 55.

[312] MMA 'Plano Amazônia Sustentável' - <http://www.mma.gov.br/florestas/controle-e-preven%C3%A7%C3%A3o-do-desmatamento/plano-amaz%C3%B4nia-sustent%C3%A1vel-pas> accessed 27 September 2015.

[313] Human Development Report – Brazil [2015] < http://hdr.undp.org/en/countries/profiles/BRA> accessed 24 November 2015.

made the Brazilian laws, as seen, the law that benefit land grabbers is in total opposition to assumed international obligations and national constitutional rules and principles. Without doubt that Brazil is making efforts to go on the right path to curb environmental degradation in the Amazon, but harmful and incoherent laws, like the mentioned, must be modified to stop such discrepancy in relation to environmental defence.

Surely the Law n.11.281/2006 and posterior regulation have improved and advanced in aspects of conservation of natural resources and regularization of agrarian situation of public lands in the Amazon. The FC/2012 also advanced with the CAR[314] registration of rural properties with legal reserves. But, the chaotic amount of laws and the inefficient implementation structure of control, management and oversight mechanisms impede the law to reach its objectives. The issues in the Amazon are dependent on the adequate effectiveness of the public organs, the programs developed and the judicial system, and they cannot support the high demand of environmental problems faced by the Amazon today. As a consequence, Brazil is on the path to compliance, but certainly not fully compliant.

4.10 Final remarks and overall compliance

Bearing in mind that the monistic school presumes that national and international law form a single legal order and, therefore, must be coherent and consistent with each other. Consequently, adopted international treaties should essentially be applied directly within the national legal order.[315] As exposed, Brazil is responsible to comply with the international obligations assumed in the analysed treaties. Thus, these international obligations should be applied directly nationally, but as it depends on the machinery of the Brazilian state and this machinery is not fully functioning to enforce these duties, that are not entirely met nationally.

Nonetheless, the approach adopted by Brazil is nationalist monism, which argues that the national law of each state prevails over the international standard when tribunals deal with international norms in conflict with domestic norms.[316] This reflects the behaviour of the country regarding the adoption of national environmental legislation and protected status national law has in relationship to international law. Another piece of evidence is that Brazil does not create

[314] (n 37)
[315] James Crawford *Browlie's Principles of Public International Law* (8 edn Oxford 2012) 48.
[316] José Francisco Rezek *Direito Internacional Público* (10 edn Saraiva 2007) 5.

legislation to implement the treaties specifically, but fits the treaty obligations into the already existing laws.

Art. 26, of the Vienna Convention on the Law on Treaties states explicitly the general principle of *pacta sunt servanda*, in which "every treaty in force is binding upon the parties to it and must be performed by them in good faith."[317] Brazil has the duty to comply with the treaties to which it became party with no excuses for non-compliance.

It was shown that the issues faced by the country and the incomplete decentralized system barely function, but have improved slowly. Market interests and economic development at any cost has been the attitude adopted by Brazil, and this conflicts directly with the environmental constitutional principles and obligations assumed internationally. This behaviour is incoherent and incompatible with the posture it shows in international environmental conferences. In spite of this, Brazilian national law generally covers all the respective principles of the treaties, but not their effective application.

The proliferation of environmental laws at three levels of government, federal, state and municipal, and projects positively influence the situation in the Amazon. However, these create a chaotic and polluted repetition of provisions that do not meet their objectives because they are not enforced. Another important issue is the decentralized management adopted by the Federal Constitution, which also affects the implementation and consequent effectiveness of these laws at all three levels. It ultimately affects the compliance to the treaties obligations.

In regard to compliance with the spirit of the treaty, overall Brazil has improved through time, but it is still not fully compliant. Instead, it is ambiguously compliant. It entered the agreements intending to comply, but with internal chaos over laws, implementation and enforcement, it falls short on the objectives. However, Brazil's behaviour shows that it forgets the legally binding force of these obligations. Therefore, it should be held accountable for disasters that might occur in the Amazon, also by the behaviour of non-state actors, due to its ineffective actions towards the environment.

Some individual provisions show that Brazil is compliant with its treaty obligations, mostly with the principles and general rules, but not to their applicability. A factor that shows its ambiguous compliance is the opaque and inaccurate information regarding the adequate

[317] Vienna Convention on the Law on Treaties Treaty (VCLT), 23 May 1969, 1155 UNTS 331, entered into force on 27 January 1980, Art. 26.

enforcement of treaty obligations. The official websites of the Brazilian government do not show this information. The fact that there is a Law for Access of Information obligating public agencies to adequately make public and transparent this information already shows that there is something lacking in Brazil's treaty obligation performance.

Representing the interests of the people is the Public Ministry (Public Prosecutor), and it has been greatly loaded with environmental court actions, mostly against municipalities. Though the Public Ministry is also present in the three levels of government, it cannot deal with all the environmental issues that present, especially from the disordered Amazon.

Brazil needs to systematically codify its environmental laws and to prioritize the six different biomes and their peculiarities, as well as the international obligations assumed to make these norms effective. With the same importance, a specialized environmental justice system must be created and the conflicts between the three levels of government must be resolved. A specialized administrative environmental body that answers promptly and adequately should be formed to attend to local problems. Also, a national superior body to specifically oversee all the environmental agencies and their agents should be created. It would be responsible for the control and monitoring of the environment, as IBAMA, ICMBio, and other responsible bodies.

The international and national environmental principles of nature conservation must be a priority in environmental legislation and not economic development at all costs. The participation of civil society and NGOs is also vital for the protection of the environment and for the transparency of government actions.

5 Conclusion

Brazil is a country of enormous economic and social disparities. It guards the largest part of the Amazon and its rich biodiversity, despite all problems. The Brazilian Amazon is located in the North Region of the country, in nine, economically different and socially unprivileged states that face diverse realities and uneven standards of public administration, where environmental concerns are not a priority. However, society is slowly waking up to these concerns.

The aim of this project was to assess some of the reasons why Brazil has not been following the international obligations implicit in specific nature conservation treaties regarding the Amazon. For this reason, this research is aimed at answering specific questions regarding these obligations.

Firstly, the coherence of Brazilian law in relation to its international obligations and the developments in the environmental field was discussed. It was also verified that Brazilian environmental law has many aspects in which it is not in alignment with international obligations or Federal Constitution provisions for the environment.

Secondly, current measures and enforcement to conserve the Brazilian Amazon area from problems caused by illegal logging, exploitation of wildlife and its effects on biodiversity were demonstrated. The reality of this situation in the Amazon is aggravated by the conflicting norms in which amnesty to criminals was created and enforced by specific federal norms. Also, the official environmental agencies were proven to not be fully capable of dealing with the environmental issues in the Amazon and the reasons for this were appointed and discussed.

Thirdly, the effectiveness of implementation of Brazilian national law and agreed instruments of international environmental law in nature conservation, particularly concerning the Amazon area, were discussed. It was found that Brazil has not effectively implemented its obligations into domestic law and it was demonstrated why these obligations are not being met. The study's basic hypothesis was proven and the reasons for this were evidenced throughout the project.

Lastly, the study concluded with suggestions for solutions in relation to compliance of Brazilian international obligations in the protection of the Amazon area, including suggestions for the judicial and administrative environmental system.

6 Bibliography

Literature

Books

Beyerlin U, and Marauhn T *International Environmental Law* (Hart 2011)

Birnie P, Boyle A and Redgwell C, *International Law and the Environment*. (3rd ed Oxford University Press 2009)

Bowman M *Lyster's International Wildlife Law* (2nd edn, Cambridge 2010)

Crawford J *Browlie's Principles of Public International Law* (8 edn Oxford 2012)

Secondat, C Baron de Montesquieu. *The Spirit of Laws* 1748.

Eikermann A *Forests in International Law: Is there really a need for an International Forest Convention?* (Springer 2015)

Henriques Filho, T H P *Política nacional do meio ambiente: 25 anos da Lei* (6 ed. Editora Del Rey 2007)

Garcia B *The Amazon from an International Law Perspective* (Cambridge Press 2011)

Pereira D *et al*. *Fatos Florestais da Amazônia* (Imazon 2010)

Rezek J F *Direito Internacional Público* (10 edn Saraiva 2007)

Rylands A B, Pinto, L P *Conservação da Biodiversidade da Amazônia Brasileira: Uma análise do sistema de unidades de conservação* (Fundação Brasileira para o Desenvolvimento Sustentável 1998)

Sands P *Principles of International Environmental Law* (2nd ed, Cambridge University Press 2003)

Schrijver N *Sovereignty over Natural Resources – Balancing Rights and Duties* (Cambridge 1997)

Articles

Butler R A, *New Protected Areas in Brazil contribute to major drop in Amazon deforestation rate*. (Mongabay 2010)

Dias-Filho M B*, Reclaiming the Brazilian Amazon: The Restoration and Management of Pasture Lands* Embrapa Eastern Amazon (2014)

Fearnside P, "*Greenhouse gas emissions from hydroelectric dams: controversies provide a springboard for rethinking a supposedly "clean" energy source*".
Fearnside P, *The Main Resources of Amazonia*. LASA – Latin America Studies Association, International Congress (April 1997)

Feeley K J, and Rehm E M, *Amazon's vulnerability to climate change heightened by deforestation and man-made dispersal barriers* (2012)

Glasson J, and Salvador N B, *EIA in Brazil: a procedures-practice gap. A comparative study with reference to the European Union, and especially the UK* (2000)

Grieg-Gran M, '*Fiscal Incentives for Biodiversity Conservation: The ICMS Ecológico in Brazil*' (IIED 2000)

Jóhannsdóttir A, *Considerations on the Development of Environmental Law in the Light of the concept of Sustainable Development* (2005) Ympäristöjuridiikka

Lewis S L, *et al*. *The 2010 Amazon Drought* Science 4 February 2011: Vol. 331 no. 6017.

Lima G G B, *A situação da Convenção sobre o Comércio Internacional das Espécies da Flora e Fauna Selvagens em erigo de extinção – CITES – no Brasil: análise empírica*.

Melo A V, *et al*. *Reserva de Desenvolvimento Sustentável Mamirauá* (Instituto de Desernvolvimento Sustentável de Mamirauá)

Nogueron R, *et al*. *Human Pressure on the Brazilian Amazon Forests* Instituto do Homem e do Meio Ambiente da Amazônia – IMAZON Global Forest Watch and World Resources Institute (2006)

Santos D, *et al*., *O Estado da Amazônia – Uso da Terra* Instituto do Homem e do Meio Ambiente da Amazônia – IMAZON (2013)

Veríssimo A, *et.al*. *Protected Areas in the Brazilian Amazon – Challenges and Opportunities* Instituto do Homem e do Meio Ambiente da Amazônia – IMAZON (2011)

Vulcanis A, *Os Problemas do Licenciamento Ambiental e a Reforma do Instrumento*

Zeng N, *Causes and impacts of the 2005 Amazon drought* (2008) IOP Publishing Ltd. Environmental Research Letters.

Legislation

International Declarations

Agenda 21: Programme of Action for Sustainable Development United Nations Commission on Environment and Development (14 June 1992) UN Doc. A/Conf.151/26

Gro Harlem Brundtland *Our Common Future: World Commission on Environment and Development* A/42/427 (Oxford University Press 1987) (WECD)

Non-Legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of all Types of Forests (Forest Principles) (August 1992) A/CONF.151/26 vol. III.

Rio Declaration on Environment and Development (13 June 1992) A/CONF.151/26 (Vol. 1)

Stockholm Declaration: Declaration of the United Nations Conference on the Human Environment (16 June 1972) UN Doc. A/Conf.48/14/Rev.1

United Nations Charter (October 1945) A/55/L.2

United Nations Climate Summit: New York Declaration on Forest, Action Statement and Action Plan (September 2014)

United Nations General Assembly Millennium Declaration (2000)

World Summit on Sustainable Development (2002) Johannesburg Declaration on Sustainable Development: From Our Origins to the Future (Johannesburg Declaration) (A/CONF.199/20 September 2002)

International Conventions and Protocols

Amazon Cooperation Treaty (ACT) (1978) Came into force 17 December 1975, UNTS I-15511

Convention Concerning the Protection of the World Cultural and Natural Heritage (WHC) (1972) Came into force 17 December 1975, UNTS I-15511.

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (1973) Came into force 1 July 1975, UNTS I-14537.

Convention on Nature Protection and Wild Life Preservation in the Western Hemisphere (the Western Hemisphere Convention) (1940) Came into force 1 May 1942, in accordance with article XI, United Nations Treaty Series (UNTS) II-485. Vol. 161 UNTS 193.

Convention on Wetlands of International Importance Especially as Waterfowl Habitat (RAMSAR) (1971) Came into force 21 December 1975, UNTS I-14583.

Convention to Combat Desertification (CCD) (1994) Came into force 29 December 1993, UNTS I-30619.

Espoo Convention on Environmental Impact Assessment in a Transboundary Context of 25 February 1991, in force since 10 September 1997, UNTS 309, binding on European Union Member States.

International Tropical Timber Agreement (ITTA) (2006) Came into force 26 December 1996, UNTS I-33480.

Kyoto Protocol to the UNFCCC (opened for signature from 16 March 1998 to 15 March 1999, entered into force 16 February 2005) UN Doc FCCC/CP/1997/7/Add.1

United Nations Convention on Biological Diversity (CBD) (1992) Came into force 21 December 1975, UNTS I-19194.

United Nations Framework Convention on Climate Change (UNFCCC) (1992) Came into force 21 March 1994, UNTS I-30822.

Vienna Convention on the Law on Treaties Treaty (VCLT), 23 May 1969, 1155 UNTS 331, entered into force on 27 January 1980.

Brazilian Legislation

Biodiversity Law n.13.123 of May 20, 2015

Cetaceans Law n. 7.643/1987
Código Florestal Brasileiro Law n. 12.651/2012 (Brazilian Forestry Code) came into force 28 May 2012.
Complementary Law n. 31, from 11 October 1977.
Constituição Federal do Brasil (Brazilian Federal Constitution), came into force 5 October 1988.
Decree 3.607 of September 2000
Decree 85.050/1980.
Decree Law n. 69 of 18 October 1978
Decree n. 1.905, March 16, 1996, entering into force 1993.
Decree n. 11.900/1991
Decree n. 2.519/1998
Decree n. 23.793, of January 23, 1934
Decree n. 3.607, September 21, 2000.
Decree n. 33 of June 16, 1992
Decree n. 4.703/2003
Decree n. 5.705/2006
Decree n. 6.063/2007
Decree n. 7.390 of December 09, 2010
Decree n. 76.623/1975
Decree n. 8.330 of November 2014
Decree n. 80.978 of December 12, 1977.
Decree n. 88.351/1983
Decree n. 99.247/1990.
Decree n. 99.274, of June 1990
Decree n.11.901/1991
Decree n.4.281/2002
Decree n.4.340/2002
Decree n.84.844/1980
Decree n.84.913, 15 July,1980.
Decree No. 7.343/2010.
Environmental Crimes Law n. 9.605/1998

Fauna Protection Law n. 5.197 from January 3, 1967.

Forest Code Law n. 4.771/1965

Law n. 12.114/2009

Law n. 12.187 of December 29, 2009.

Law n. 12.187/2009.

Law n. 5.173 from 27 October 1966.

Law n. 6.938 of August 1981

Law n. 6.938, of 31 August 1981.

Law n. 6.938/1981

Law n.7.511/1986

Law n. 7.803/1989

Law n. 7.804/1989

Law n. 9.985/2000

Law n.11.105/2005

Law n. 9.795/1999

Law of Access of Information n. 12.527/2011

Legislative Decree n. 2/1994,

Legislative Decree n. 54/1975

Legislative Decree n. 58.054 of 23 of March 1966.

National Environment Policy Law n. 6.938/1981.

National Plan for Protected Areas (PNAP) Decree n. 5.758/2006

Ordinary Law n. 11.284 of 2 March 2006

Presidential Decree 7.390/2010

Presidential Decree n. 2.741 of 20 August 1998.

Presidential Decree n. 4.339

Presidential Decree n.6.263 of November 21, 2007

Presidential Decree of July 21, 2008

Public Auctions Law n. 8.666/1993

Other Legislation

CNZU Recommendation n.3/2010

CNZU Recommendation n.5/2012
CNZU, Recommendation n.3 of 13 May 2010
CONAMA Resolution 01/1986
CONAMA Resolution 457/2013
CONAMA Resolution n. 238 of 22 December 1997.
CONAMA Resolution n. 238/1997
CONAMA Resolution n. 406/2009
CONAMA Resolution n.237/1997

Resolutions, Reports, CoP Decisions and Documents

'Documento síntese: Análise das emissões de GEE no Brasil (1970-2013) e suas implicações para políticas públicas' Governos Locais pela Sustentabilidade (ICLEI) *et al* – São Paulo: Observatório do Clima, 2015.

Brazil Fifth National Report to the CBD https://www.cbd.int/doc/world/br/br-nr-05-en.pdf accessed 24 April 2015.

Brazil's submission of a Forest Reference Emission Level (FREL) for reducing emissions from deforestation in the Amazonia biome for REDD+ results-based payments under the UNFCCC.

Global Biodiversity Outlook 4 (GBO4) by Secretariat of the Convention on Biological Diversity (2014).

ITTO-CITES Program for Implementing CITES listing of Tropical Tress Species. Number 2-7. September 2014.

Kushiro Statement regarding commitments and actions in relation to the convention, from Resolution 5.1, Annex 1, CoP 5, June 9,1993, Kushiro, Japan.

Manual on Compliance with and Enforcement of Multilateral Environmental Agreements (UNEP 2006) 32.

MMA – Adaptation Plan – The National Climate Change Adaptation Plan (PNA). Among its main goals, is the reduction of the annual deforestation in the Amazon (reduction of 80% by 2020, according to article 6 of the Decree n.6.263/2007).

Report on the World Commission on Environment and Development UNGA Res 42/187 (11 December 1987)

Rio Declaration on Environment and Development (A/Conf.151/26) (14 June 1992).

UNGA Res 1803 (XVII) 'Permanent Sovereignty over Natural Resources' (14 December 1962)

UNGA Res 3016 (XXVII). 'Permanent Sovereignty over Natural Resources of Developing Countries' (18 December 1972)

UNGA Res 2997 (XXVII) UN Doc. A/8901, Institutional and Financial Arrangements for International Environmental Cooperation (15 December 1972)

UNGA Res 35/8 UN Doc. A/35/L.7, Add 1, Historical responsibility of States for the preservation of nature for present and future generations (30 October 1980)

UNGA Res 626 (VII) 'Right to exploit freely natural wealth and resources' (21 October 1952)
United Nations Conference on the Human Environment, Second Session 1971 (A/CONF.48/PC.9).

United Nations Environmental Programme (UNEP), Amazon Cooperation Treaty Organization (ACTO) and Research Center of Universidad del Pacífico (CIUP), *Environmental Outlook in Amazonia, Geo Amazonia*, 2009.

United Nations General Assembly - UNGA Res 1831 (XVII) UN Doc. A/5344.

United Nations General Assembly (UNGA) Resolution 47/188.

WHC Nomination and IUCN Technical Evaluation on Jaú National Park from February 2000.
World Charter of Nature (October 1982) UNGA Res A/RES/37/7 UN Doc. A/37/L.4, Add. 1.

World Heritage Committee in the Report WHC.00 /CONF.204 /21, Conference held in Bureau, Cairns, Australia (23/11/2000)

Case Law

ICJ

Gabcikovo-Nagymaros Project case, Hungary v. Slovakia. (1997) Judgement of the International Court of Justice – ICJ, 78. < http://www.icj-cij.org/docket/files/92/7375.pdf > accessed 24 October 2015.

STF

Banco Bradesco S/A v Luciano C. Santos [2008] [RE466.343-SP] (STF) 60.

STF Direct Action of Unconstitutionality (ADI 4901)

STF Direct Action of Unconstitutionality (ADI 4902)

STF Direct Action of Unconstitutionality (ADI 4903)

Internet Sources

ACTO *Monitoring Deforestation, Logging and Land Use Change in the Pan Amazonian Forest* <http://www.otca.org.br/portal/admin/_upload/publicacoes/folder_monitoreo_ing.pdf> accessed 20 March 2015.

ACTO *Monitoring Forest Cover in the Amazon Region*. November 2014. 2. < http://www.otca.info/portal/admin/_upload/publicacoes/482-Monitoring.pdf > accessed 20 March 2015.

ACTO Strategic Plan (2004-2012) 24. http://iwlearn.net/iw-projects/2364/reports/sap-document accessed 18 March 2015.

Amazon Fund Total Donations received - Historical Values http://www.fundoamazonia.gov.br/FundoAmazonia/fam/site_pt/Esquerdo/Doacoes/ accessed 3 September 2015.

Base Juridica del Tratado de Cooperation Amazonica [2003-2012]. 42 http://otca.info/portal/admin/_upload/base_juridica/368-Ingles.BJ.pdf accessed 20 March 2015.

CBD Secretariat 'Role'. Secretariat is located in Montreal, Canada, since 1996. < http://www.cbd.int/secretariat/role.shtml> accessed 28 March 2015.

FAO/TCP/RLA 3007. Ministry of Environment (MMA) *Índice Taratopo* < http://www.mma.gov.br/estruturas/pnf/_arquivos/indic_tarapoto.pdf > accessed 18 March 2015.

Greenpeace http://www.greenpeace.org/brasil/pt/Noticias/Madeira-ilegal-e-os-desafios-da-gestao-ambiental/ accessed 27 September 2015.

Greenpeace - The Amazon's silent crisis Illegal timber for export – with official documentation. http://www.illegal-logging.info/sites/default/files/Daniela_Montalto_Presentation.pdf accessed 27 September 2015.

Human Development Report – Brazil [2015] < http://hdr.undp.org/en/countries/profiles/BRA> accessed 24 November 2015.

IBAMA < http://www.ibama.gov.br/publicadas/cerco-ao-crime-na-amazonia > accessed 7 September 2015.

IMAZON Deforestation in the Amazon October [2014] http://imazon.org.br/boletim-do-desmatamento-da-amazonia-legal-outubro-de-2014/ accessed 27 September 2015.

Ministry of Environment – Speech of Brazilian President to UNFCCC http://www.mma.gov.br/index.php/comunicacao/agencia-informma?view=blog&id=1162 access 27 September 2015.

Ministry of External Relations of Brazil 'Joint Action Plan Between the Government of the Federative Republic of Brazil and the Governement of the People's Republic of China - 2015-2021'.
http://www.itamaraty.gov.br/index.php?option=com_content&view=article&id=9687:visita-oficial-do-primeiro-ministro-da-republica-popular-da-china-li-keqiang-ao-brasil-documentos-brasilia-19-de-maio-de-2015&catid=42:notas&lang=pt-BR&Itemid=280#pac-eng accessed 03 September 2015.

SiBBr < http://www.sibbr.gov.br/areas/index.php?area=conservacao > accessed 7 September 2015.

TAC, 1995. *Proposal of Criteria and indicators for sustainability of the Amazon Forest*. Pro Tempore Secretariat, Lima, Peru. http://www.fao.org/docrep/004/ac135e/ac135e0a.htm accessed 18 March 2015.

National Congress of Brazil < http://www25.senado.leg.br/web/atividade/materias/-/materia/123372 > accessed 26 November 2015.

A Impunidade de Crimes Ambientais em Áreas Protegidas Federais na Amazônia (IMAZON) 13 < http://imazon.org.br/a-impunidade-de-crimes-ambientais-em-areas-protegidas-federais-na-amazonia/ > accessed 28 November 2015.

Amazon Watch – Arc of Deforestation image <http://amazonwatch.org/assets/images/2011-brazil-deforestation-map.gif > accessed December 2, 2015

Amazon Watch <http://amazonwatch.org/work/belo-monte-dam> accessed 5 February 2015.

ARPA <http://programaarpa.gov.br/en/ > accessed February 2015.

Áreas Protegidas na Amazônia Brasileira: Avanços e Desafios (IMAZON 2013) <http://imazon.org.br/areas-protegidas-na-amazonia-brasileira-avancos-e-desafios-2/ >

IBAMA <http://ibama.gov.br/ > accessed from December 2014 to November 2015.

Blog do Planalto – Presidência da República *Oito razões pelas quais o Brasil não assinou "acordo" para preservação de florestas* < http://blog.planalto.gov.br/assunto/declaracao-de-nova-iorque-sobre-florestas/ > accessed 30 November 2015.

Brasil. Presidência da República. 'Amazon Sustainable Plan - Guidelines for sustainable development in the Brazilian Amazon'. 2008. http://www.casacivil.gov.br/.arquivos/110106%20-%20MI%20-%20Plano%20Amazonia%20Sustentavel%20-%20PAS.pdf

Brazil – national targets to the Aichi Biodiversity Targets https://www.cbd.int/countries/targets/?country=br accessed 24 April 2015.

Brazil has lost 5.2 million hectares of Conservation Units (IMAZON) < http://imazon.org.br/imprensa/brasil-ja-perdeu-52-milhoes-de-hectares-de-unidades-de-conservacao/?lang=en > accessed 22 November 2015.

CBD Working Groups, see further: < http://www.cbd.int/convention/bodies/intro.shtml> accessed 28 March 2015.

CITES Secretariat "How CITES work?" <http://www.cites.org/eng/disc/how.php > accessed 20 February 2015.

Climate Policy Initiative and Pontifical Catholic University of Rio de Janeiro. Juliano Assunção and Clarissa Gandour. 'Strengthening Brazil's Forest Protection in a Changing Landscape' August, 2015. http://climatepolicyinitiative.org/publication/strengthening-brazils-forest-protection-in-a-changing-landscape/ accessed 24 September 2015.

Convention on Biological Diversity 'Brazil'. < https://www.cbd.int/countries/default.shtml?country=br> accessed 30 March 2015.

FAO *Global Forest Resources Assessment 2015 – How are the world's forests changing?* http://www.fao.org/3/a-i4793e.pdf accessed 27 September 2015.

Federal Public Prosecutor of Brazil (Ministério Público Federal do Brasil) Standard Description Form of International Norm <http://4ccr.pgr.mpf.mp.br/documentos-e-publicacoes/tratados-internacionais/docs/formulario_convencao_flora_fauna_e_belezas_cenicas_americas.pdf> accessed 27 September 2015.

Federal Public Prosecutor Recommendation to Public Organs regarding the Amazon < http://4ccr.pgr.mpf.mp.br/institucional/grupos-de-trabalho/amazonia-legal/transparencia-das-informacoes-ambientais/recomendacoes > accessed 7 December 2015.

Florestas para Água e Zonas Úmidas (MMA) 11 < http://www.mma.gov.br/estruturas/205/_publicacao/205_publicacao29032011115921.pdf> accessed 22 November 2015.

Fonseca, A., *et al. Deforestation report for the Brazilian Amazon (June 2015) SAD* (IMAZON/SAD) <http://imazon.org.br/publicacoes/deforestation-report-for-the-brazilian-amazon-june-2015-sad/?lang=en> accessed 24 October 2015.

For a more detailed emission information, the World Resources Institute has created a profile about Brazil. http://cait.wri.org/profile/Brazil accessed 10 September 2015.

G1 < http://g1.globo.com/am/amazonas/noticia/2014/07/ibama-tem-apenas-47-servidores-para-fiscalizar-crimes-ambientais-no-am.html> accessed 27 November 2015.

Governo do Estado de Sao Paulo – Secretaria do Meio Ambiente – Madeira Legal http://www.ambiente.sp.gov.br/madeiralegal/madeira-legal-vs-madeira-ilegal/ accessed 27 September 2015.

IBAMA "CITES" <http://www.ibama.gov.br/servicos/cites > accessed 20 February 2015.

IBAMA CITES < http://www.ibama.gov.br/fauna-silvestre/fauna-silvestre > accessed 18 March 2015.

InfoAmazônia *A Política do Desmatamento* < http://desmatamento.infoamazonia.org/analise/> accessed 10 December 2015.

INPE Projects < http://www.obt.inpe.br/projetos.htm > accessed 28 November 2015.

ITTO http://www.itto.int/about_itto/ accessed 25 September 2015.

ITTO Status of Tropical Forest Management 2011 http://www.itto.int/sfm_detail/id=12480000 acessed 05 October 2015.

Mamirauá Reserve: <http://www.mamiraua.org.br/en-us> accessed 5 January 2015.

Ministério Público Federal – Procuradoria da República no Pará "*Fraude no comércio de madeira usa falha na comunicacao entre sistemas de controle*". http://www.prpa.mpf.mp.br/news/2014/fraude-no-comercio-de-madeira-usa-falha-na-comunicacao-entre-sistemas-de-controle accessed 27 September 2015.

Ministry of Development, Industry and Foreign Trade < http://www.mdic.gov.br/sitio/interna/interna.php?area=1&menu=797&refr=482 > accessed 18 March 2015.

Ministry of Environment website <http://www.mma.gov.br/biodiversidade/biodiversidade-aquatica/zonas-umidas-convencao-de-ramsar/instrumentos-da-conven%C3%A7%C3%A3o-de-ramsar> accessed 20 February 2015.

Ministry of International Relations of Brazil <http://www.itamaraty.gov.br/index.php?option=com_content&view=article&id=691:organizacao-do-tratado-de-cooperacao-amazonica-otca&catid=146&Itemid=434&lang=pt-BR > accessed 18 March 2015.

MMA 'Plano Amazônia Sustentável' - http://www.mma.gov.br/florestas/controle-e-preven%C3%A7%C3%A3o-do-desmatamento/plano-amaz%C3%B4nia-sustent%C3%A1vel-pas accessed 27 September 2015.

MMA through National Wetlands Committee – CNZU, Recommendation n.3 of 13 May 2010 <http://www.mma.gov.br/estruturas/205/_arquivos/recomendao_cnzu_n_3_de_130510_205.pdf > accessed 30 November 2015.

National Network for Combating Wild Animal Trafficking (RENCTAS) < http://www.renctas.org.br/wp-content/uploads/2014/02/NORTE.pdf> accessed 27 November 2015.

Organogram chart by PPCDAm of the 112 causes of deforestation and illegal logging in the Legal Amazon. http://www.mma.gov.br/images/arquivo/80120/PPCDAm/MODELO%20LOGICO%20PPCDAM%202012%20-%20site.png accessed in 01 September 2015.

Povos Indígenas no Brasil <http://pib.socioambiental.org/pt/c/0/1/2/populacao-indigena-no-brasil> accessed 28 September 2014.

Progress on the New York Declaration on Forests: An Assessment Framework and Initial Report < http://forestdeclaration.org/wp-content/uploads/2015/10/NYDF-Progress-Report.pdf > accessed 30 November 2015.

QUEIMADAS program http://www.inpe.br/queimadas/ accessed 24 September 2015.

RAMSAR official website definition: <http://archive.ramsar.org/cda/en/ramsar-about-mission/main/ramsar/1-36-53_4000_0 > accessed January 15, 2015.

RAMSAR official website: <http://archive.ramsar.org> accessed 5 January 2015.

RENCTAS http://www.renctas.org.br/trafico-de-aves-corresponde-a-80-das-especies-de-animais-contrabandeados-no-brasil/ accessed 27 November 2015.

Secretaria de Assuntos Estratégicos da Presidência da República 'Licenciamento Ambiental' (2009) <http://www.law.harvard.edu/faculty/unger/portuguese/pdfs/11_Licenciamento_ambiental1.pdf> accessed 20 February 2015.

Sinópse do Censo Demográfico: 2010/IBGE (IBGE Library online, Rio de Janeiro, 2011) <http://biblioteca.ibge.gov.br/index.php/biblioteca-catalogo?view=detalhes&id=249230> accessed 28 September 2014.

Depositary is OAS General Secretariat. <http://www.oas.org/dsd/WHMSI/English/Indexv2.htm> accessed November 20, 2015

UNFCCC Background of the CoP http://unfccc.int/bodies/body/6383.php accessed 5 May 2015.

United Nations Convention to Combat Desertification (UNCCD) – 'The Convention' http://www.unccd.int/en/about-the-convention/Pages/About-the-Convention.aspx accessed 24 September 2015.

United Nations Treaty Collection: https://treaties.un.org/ (accessed December 2014)